

CLINICAL MEDICINE AND SURGERY



VOLUME 41

April, 1934

NUMBER 4

• LEADING ARTICLES •

	PAGE
Chronic Leukorrhea - - - - -	159
Agranulocytic Angina - - - - -	163
Cretins and Mongolian Idiots - - - - -	166
Stuttering and Stammering - - - - -	168
Tumors of the Lymphatic System - - - - -	171
Colonic Irrigation - - - - -	176
Physical and Oral Diagnosis Correlated - - - - -	180
The Desire to be Sick - - - - -	183
Editorials - - - - -	155

• COMPLETE TABLE OF CONTENTS ON ADVERTISING PAGE FOUR •



DURING PREGNANCY AND THE POSTPARTUM PERIOD

supporting treatment is essential.

To renew the impoverished blood stream, to replenish the constant mineral depletion, and to overcome the neural depression, there is no better tonic than Fellows' Syrup for the parturient and post-parturient patient.

Suggested dose: One teaspoonful t.i.d. in water.

SAMPLES ON REQUEST

FELLOWS MEDICAL MFG. CO., INC.

26 Christopher Street, New York, N.Y.

FELLOWS' SYRUP OF THE HYPOPHOSPHITES

The Efficacy of

TAUROCOL

(Torocol) tablets



is emphasized in bile salts therapy in the reduced dosage necessary as the bile increases.

TAUROCOL is a combination of bile salts,* extracts of cascara sagrada, phenolphthalein and aromatics and is an agent recognized by the medical profession and widely prescribed for about a quarter of a century.

* Bile salts in TAUROCOL are sodium glycolate and taurocholate. This should not be confused with the bile acids present in some preparations. The acids are toxic, while the sodium salts are NON-TOXIC.

For dispensing or prescribing. Put up 500 tablets in container and 100 tablets in bottle.

IF you are now prescribing TAUROCOL you know its efficacy in increasing bile flow. If you are not prescribing TAUROCOL, will you please make a clinical test of TAUROCOL?

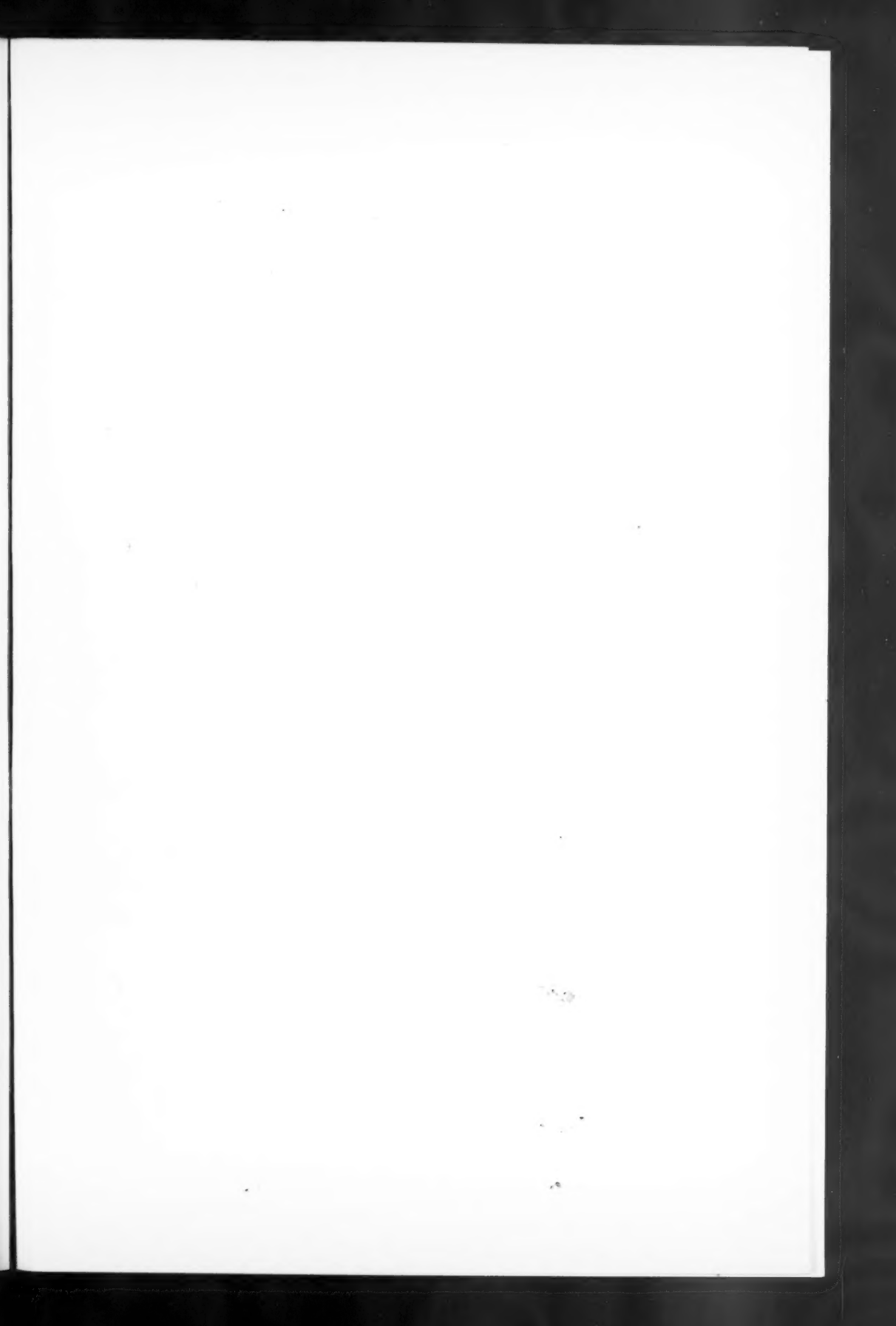
Samples and full information sent on request



THE PAUL PLESSNER COMPANY
DETROIT MICHIGAN



CM-4-34





WILLIAM THOMAS GREEN MORTON, D.D.S., M.D.

CLINICAL MEDICINE AND SURGERY

GEORGE B. LAKE, M.D.

• Editor •

EDITORIAL STAFF

DR. W. A. NEWMAN DORLAND
DR. J. E. G. WADDINGTON

DR. FRANK T. WOODBURY
DR. WILBUR H. GILMORE
DR. H. J. ACHARD

DR. ALFRED J. ASGIS
DR. HENRY SCHMITZ

Vol. 41

APRIL, 1934

No. 4

EDITORIAL

William T. G. Morton

Pioneer of Anesthesia

W E OF the present generation can scarcely realize the horrors of Surgery in the days before anesthesia was discovered. It is safe to say that this discovery was one of the two foundation stones (the other being antiseptis and asepsis) upon which the splendid structure of modern surgery has been erected.

In studying the history of this revolutionary discovery, it is depressing to see how it was mixed up with selfishness and personal jealousies and heartburnings.

Dr. J. Marion Sims, after studying all the evidence, announced, in 1877, that the actual discovery of the anesthetic properties of sulphuric ether was made in 1842, by Dr. Crawford W. Long (see *CLIN. MED. & SURG.*, Aug., 1927, p. 579); but he was so tardy in announcing the matter that several others had used the drug and made their reputations before his report appeared. Among these was the enterprising young dentist, William Thomas Green Morton.

Morton was born in Massachusetts, in 1819, and was graduated from the Baltimore College of Dental Surgery. His aim, however, was to become a physician, and the practice of dentistry was a means for paying his way through Harvard Medical School. In this practice he was associated with another dentist, Dr. Horace Wells, who, in 1844, began

to experiment with nitrous oxide as an anesthetic, as suggested by Sir Humphrey Davy, in 1800.

Wells killed one of his patients and, a few years later, himself, but his young partner was interested and talked the matter over with his preceptor, Dr. Charles T. Jackson, who suggested that chloric ether might have the same effect. Morton tried it in filling a tooth, in July, 1844, and it worked so well that he went on with his studies and found (with Dr. Jackson's help) that sulphuric ether was even better.

Instead, however, of making a report of his findings, Morton prepared to make a fortune for himself. He added some volatile oils and coloring matter to his ether and tried to get a patent on it, under the name of "Letheon." It was under this alias that it was first used in surgery by Dr. John C. Warren, at the Massachusetts General Hospital, October 16, 1846, and reported upon by Dr. Henry J. Bigelow, in November of the same year, in the *Boston Medical and Surgical Journal*. A squabble regarding priority then began between Morton and his preceptor, Jackson, and it was not until the next year that the medical profession found out that "Letheon" was merely sulphuric ether.

The popularity of the newly introduced drug was instantaneous. Surgeons, dentists and accoucheurs all over the world took it up and were delighted with the results obtained. Lauds and honors poured in upon Morton, who was in such demand that his medical course had to be suspended for a time. He finished it, eventually, in time to take part in the Civil War as a volunteer surgeon, after which he retired to Wellesley, Massachusetts, where he spent the last years of his life, a poor man, in raising and importing fine cattle. He died in 1868, being only forty-eight years old.

While Long or Jackson may have been the first to discover the anesthetic properties of sulphuric ether, there is no doubt that Morton was the man who introduced it to the medical profession; and on that basis his name and his contribution are entitled to be remembered, even though he did handle the affair in a selfish manner which smacked of charlatanry. In the end, none of the parties to the controversy became wealthy or very happy over it, and all of them died in obscurity.

The important thing, however, is that the discovery was made; the drug was introduced; and, by those acts, modern surgery was made possible.

There is no state of bodily suffering, of whatever kind or degree, whether functional or organic, which does not include an emotional factor among its components.—DR. GEORGE DRAPER.

Files or Piles?

WHAT would any reasonable person think of a business man who kept no records of his affairs—who could not tell, a month after the event, what he paid for a certain bill of goods or what he sold them for; what items met with popular approval and demand and which remained upon his shelves until they became wholly unsalable.

Such an one would not long remain a business man. He would soon join the ranks of the bankrupts and seek his sustenance in the breadlines.

Yet this is just the disastrous way in which many physicians still conduct their professional, as well as their economic affairs. They make no intelligible records of the condition of their patients, what they do for them nor the results of the treatment given, and therefore the vast empiric knowledge which a busy clinician can and should acquire and pass on to his confreres is largely and wholly wasted

and lost. If Mrs. Jones comes in for some more of the medicine that helped her rheumatism so much last last year, the guessing that frequently ensues is generally wrong and the patient is apt to go elsewhere.

The expense of installing a simple system for keeping at least rudimentary case records is negligible; and the time and effort spent in making, filing and keeping up such records will give such immense returns in professional reputation and financial increment that it soon proves to be the best investment the record-keeping doctor ever made.

The syphilitic and malarial registers employed in the Army are models which might well be followed, with modifications, by every physician who treats chronic diseases of any type—and that means every practicing physician.

And then, the pity of the appalling waste of the hard-won reading and study hours of most physicians! An article in a journal, a paragraph in a textbook, a manufacturer's folder, is read and some item encountered which the reader *knows* will be useful to him later, but no record of it is made. After a week or two, the need for that very information arises, and enough time is spent in madly pawing through a mass of disorderly papers and books to have made a score of brief reference notes which would have saved all the strain upon the conscience and disposition of the careless one.

Here, again, an insignificant outlay of money and effort will make one the ready master of the fund of knowledge he has accumulated from such reading and study as he has been able and willing to do. And as this fund of available information grows, a hunger for more is engendered and progress proceeds in geometric ratio.

A small box, some cards (preferably 4 x 6 inches) and a set of alphabetic guides are enough for a start. Here is a place to file information, picked up here and there, about drugs, by names or by classes—antiseptics, anesthetics, heart tonics, hypnotics, urinary antiseptics, etc.; about diagnostic procedures; about surgical and physical therapeutic techniques; and scores of other matters. In this editor's office, a file of thousands of such cards makes possible the answering of dozens of questions, on a surprising variety of subjects, every week.

Some years ago, a discerning advertiser of a course in memory training or some coordinating device, propounded, in bold-faced type, the pertinent question, "Is your brain a file or a pile?"

It would be well if every physician asked himself that question in all seriousness; answered it honestly; and, if the latter alternative proved to be applicable in his case, set about to change the conditions without a day's delay. Having done so, the end of the year would find him healthier, wealthier and far, far wiser than he was when he began the experiment of organizing his resources and his activities.

Forget not that the yesterday that is yet to come, is garnered from your tomorrows; and they, in turn, are the fruits of yesterdays in unremembered years.
—MONA WANDANITA HILLE.

Postgraduate Study

THE necessity incumbent upon all physicians, to follow up the formal education which led to their degrees by doing regular postgraduate study, is so obvious that a mention of it seems almost trite. And yet this duty is more generally neglected than performed.

The reasons for this neglect are various, but the one most commonly advanced is so cogent, especially in times like these, that it seems essential to find some way to get around it.

The cost, both in actual money outlay and in lost practice, of leaving the office vacant for a month or two in order to visit some more or less distant medical center for graduate instruction, is truly prohibitive, for many; but other means for carrying on such work are now being offered and, while they are, of course, not equal in value to personal instruction under an inspiring teacher, they form a decidedly worth-while substitute for such instruction, with the advantage that they can be utilized without the student leaving home.

Beginning with the March, 1934, issue, "International Clinics" is including, with each quarterly volume, a case study with facilities for any subscriber to work it out in detail and check his results with those of the personnel of a distinguished diagnostic clinic. This is a worth-while opportunity which should not be overlooked by those who have access to it.

Another similar opportunity is available, every month, to all readers of this Journal, and the fact that it is not widely used suggests that there is a rather high degree of general professional smugness and inertia, which may, in many cases, be the reason why financial returns are not more satisfying.

Each month a medical problem is presented

in *The Seminar* and our readers have a general invitation to study it and send in discussions, which will be published two months later, along with a solution (if one has been reached) or a summarizing discussion by the editor, the author of the problem or some other authority.

Those who exercise their minds on these problems regularly are getting the benefit of valuable clinical consultations over difficult or puzzling cases and are developing their diagnostic and therapeutic acumen to a degree proportional to the time and thought expended. That way lies professional and financial success.

We hope that our readers will utilize this medium for postgraduate instruction, which is at their very elbows, more fully and freely than they have done in the past, both by working up some of their baffling cases as carefully and completely as possible and sending them in for discussion, and by taking part, regularly and seriously, in the discussion of the problems presented by others.

Here is a splendid opportunity for genuine professional advancement, and those who fail to use it are not getting the greatest returns out of the investment they are making in this Journal. *The Seminar* can be made the most valuable feature in it. This is an invitation to YOU to help in making it so.

That which is done is done, but the future is always free.—C. HUMPHREYS.

Reason: Its Use and Abuse

REASON is the most essentially human faculty so far developed by mankind, but it is not, on that account, the only one worth considering and developing.

Before the intellect can come into play, one must have a certain amount of knowledge, acquired by observation. If a man does not observe extensively, his fund of first-hand facts will be too small to furnish an adequate grist for the mill of his reason; and if he does not observe accurately, his conclusions will all be wrong, because his premises were incomplete or erroneous.

But, having acquired a mass of facts, we must not assume that we know the truth. Facts are neither true nor false: they simply are. The truth appears only when we use our reason upon them: and that is the sole

function of the reason—to find out the truth. It cannot tell us what is right and good nor what is beautiful: only what is true.

There are three great human faculties: the illative faculty or reason; the moral faculty, which determines what is right; and the esthetic faculty, which tells us what is beautiful. None of these is more fundamentally important than another. All, functioning in harmony, are necessary for a well-balanced personality. The man who tries to use his reason for purposes for which it was never intended, is abusing that faculty.

On the other hand, there are many who fail to use their reason when they should do so, and surrender it to the pronouncements of "authority," which may be reliable or not. If it is sound, the man who accepts it has simply given up the use of one of his powers and will find himself helpless in the face of an emergency where the authority cannot be consulted. If it is in error (as it often is), he may readily be led into disaster by following it blindly.

There are five basic human instincts, aside from those having to do with the preservation of the animal life and the perpetuation of the species, and these deal with: Intellect and knowledge; religion and morals; beauty and poetry; individual expansion and improvement; and social life and manners. The first pertains to the reason; the second to the moral faculty; the third to the esthetic faculty; while the last two require the combined operation of the three faculties. He who is not satisfying all of these instincts is not living so richly and satisfyingly as he should.

It appears, then, that most people would be happier and more successful if they would use their illative faculty more frequently and regularly, so that it may grow more powerful and reliable by exercise; but that they should not try to make it perform functions for which it is not adapted. The other two fac-

ulties should be recognized and developed, so that they can supplement the reason in the ordering of the life and receive support from it in determining matters having to do with the enrichment of the individuality and its adjustment to the vicissitudes of the social environment.

Art for the masses is a flattering but a pernicious slogan. Art of any distinction must always be manna for the discriminating and, consequently, for the few.
—FRED B. MILLETT.

Facts and Comments

THE newspapers and magazines frequently carry stories about alleged medical discoveries which have not yet been regularly reported in the professional literature, or about matters which, while having decided interest for physicians, are not of sufficient importance or validity to call for their inclusion in a medical journal.

While these things do not warrant serious mention in the pages of this or any other high-class medical periodical which are filed for reference, we believe that our readers will be interested in some of them, so we purpose to watch for them, and publish some of them, in a new department, "Facts and Comments," which will appear in our advertising pages, either alternating with "The Leisure Hour," which now appears there, or along with it, as the case may be.

We shall be glad to hear from our readers, after they have seen the new Department, as to how they like it; and we shall also be glad to receive clippings which it is believed might be useful in this connection. These should always show the name and date of the periodical in which they appeared and the place of publication, so that proper credit can be given, when advisable to do so.

APRIL

(Cinquain)

*Faces
Of white bloodroot
And mild hepaticas
Beckon from the steaming leaf mold
To us.*

G. B. L.

LEADING ARTICLES

The Diagnosis and Treatment of Chronic Leukorrhea

(Part I)

By A. G. Miller, B.S., A.M., M.D., Hobart, Ind.

Miller Clinic

L EUKORRHEA may be defined as any abnormal blood-free discharge from the female genital tract. It is not a disease per se, but a symptom of some underlying dysfunction, irritation or infection. It may be found in all ages, from infancy to the aged, but is most frequent during the child-bearing period. It is the most frequent complaint of women in all civilized countries of the world and, as such, is worthy of more careful consideration than has been accorded to it in the past.

Medical history is replete with remedies for this condition, ranging from perfumed powders and medicated jellies, to the tinsmith's soldering iron and the expensive apparatus for electro-coagulation. These remedies are mostly based upon empiric grounds. The first-named are mainly psychologic, unscientific and inert. The latter, if used with judgment in extreme cases, are helpful, but always destructive and radical. Modern medicine should not aim at cell destruction as a means of curing a dysfunction, irritation or infection, but rather seek to treat these abnormally functioning cells till they again assume their normal, physiologic rôle.

In order to treat the various types of leukorrhea scientifically, one must have clearly in mind the histology, physiology and chemistry of the female generative tract.

Anatomy and Physiology

The Vagina: The mucous membrane of the vagina extends from the vulva to the portio vaginalis of the cervix. It is arranged in transverse folds and contains no functioning glands. The epithelium covering the surface is of the squamous-celled type. Normally the surface is covered by cast-off epithelial cells and bacteria, in a moisture which has an acid reaction. This acidity is due to the lactic acid content. Lactic acid is formed from the glycogen of the vaginal wall by acidifying bacilli, especially Döderline's bacillus¹. The degree of acidity varies at different times of the menstrual cycle, ranging from pH 7.2, two days after menstruation, and then slowly rising to pH 7.6, on the fifteenth to the seventeenth day, then slowly receding until, on the

twentieth day of the cycle, it is pH 7.4, where it remains until the next menstruation takes place.

The Cervix: The mucous membrane of the endocervix is arranged in rugae radiating from a central line. It is composed of racemose glands, with ducts emptying into the cervical canal. Sturmdorf states that there are from sixty to eighty thousand of these glands, according to the size of the cervix. The epithelial lining is of the high cylindric type. At the internal os the mucous membrane of the cervix merges into the mucosa of the endometrium. The lymphatic structure of the endocervix begins in the mucosa, the lymph vessels communicating with the lymph bodies in the muscularis. From there the lymphatics pass upward to the uterus, forming a capillary network that drains into the lymphatic channels which pass along the uterine and ovarian vessels on the top and underside of the broad ligaments, to be carried into the lumbar and sacral lymph glands.

These thousands of glands, with their superficial and deep lymphatics connecting with the uterine, ligamentary, tubal and ovarian structures, play a major part in infections involving these structures. The cervical glands secrete a clear, alkaline mucus which, coming in contact with the acid secretion of the vagina, coagulates and assumes a characteristic white color. The amount of cervical secretion varies at different times of the menstrual cycle², the greatest amount of secretion occurring about ten days after the beginning of menstruation and lasting four or five days. This period of increased secretion corresponds to the period of increased vaginal acidity and the ovulation time in each menstrual cycle, and is nature's method of aiding the function of reproduction. The increased vaginal acidity motivates spermatozoa and destroys those which do not leave quickly. The alkaline cervical secretion attracts spermatozoa and forms for them a refuge. The spermatozoa have an autolytic action upon the cervical secretion and are able to produce channels in the cervical mucus and gain access to the fallopian tubes. This autolytic

action, however, is not universal. The spermatozoa of one man may penetrate the cervical mucus of one woman and be unable to penetrate the cervical mucus of another woman. This accounts for some cases of second-marriage sterility, in apparently normal couples.

The Uterus: The mucous membrane of the endometrium is arranged in oblique ridges. It is essentially a glandular structure, covered by a single layer of ciliated columnar epithelium, which also lines the glands and is continuous through the fallopian tubes. The glands secrete a non-albuminous fluid, which is alkaline in reaction. Ordinarily the amount of secretion is negligible, except that, immediately after a menstrual period, there is a hypersecretion sufficient to produce a temporary, mild leukorrhea. The endometrium is dominated and controlled by the ovarian hormones, folliculin and progesterin. From the cessation of one menstrual cycle to that of the next, it presents a constantly changing histologic picture, according to the production of these hormones by the ovaries. This cycle of changes is divided into four phases, as follows:

- 1.—A menstrual phase of four days.
- 2.—A period of rest of four days.
- 3.—An interval or follicular phase of 10 days.
- 4.—A premenstrual or progestational phase of ten days.

Because of this constantly changing picture, the endometrium is not a suitable place for bacteria to rest, multiply and produce a leukorrhea. However, at times, especially in the case of gonorrheal endocervicitis, the endometrium serves as a bridge for the passage of organisms to the fallopian tubes.

The Fallopian Tubes: Each tube is about four and one-fourth inches long. At the uterine end the opening is approximately one millimeter in diameter, while at the abdominal end it is two millimeters. The mucous membrane is arranged in longitudinal folds and covered with ciliated columnar epithelium, which extends out and covers the fimbriated ends. It is continuous with the mucosa of the uterus and, at the free end of the tube, with the peritoneum. Normally the epithelium of the tube is bathed with a very slight amount of moisture that has an alkaline reaction.

From these histologic considerations we see that the adult woman, under normal conditions, has a physiologic secretion from the outermost portion of the tubes to the vulva. This secretion is inconspicuous, unless abnormal in amount, and then it is designated by the term leukorrhea. Leukorrheas may be classified into two main groups, noninfectious and infectious. In the latter group is arbitrarily included those leukorrheas due to new growths, ulceration and laceration, for sooner

or later they are contaminated with bacteria.

Non-infectious Leukorrhea

The non-infectious types of leukorrhea are usually associated with disorders of menstruation and are therefore of an endocrine nature. At the age of puberty, when menstruation commences, quite often girls menstruate too profusely and too long—sometimes as long as ten to fourteen days—and following the cessation of menstruation there is a profuse vaginal discharge until menstruation again takes place. This cycle is repeated month after month until the child becomes anemic, nervous and often choreic. If allowed to continue, this state of affairs will produce such a profound depletion of the blood stream that the kidneys will no longer be able to filter back the proteins of the blood, and they will appear in the urine as albumin. On urinalysis the case will often be diagnosed as Bright's disease, and the upper respiratory tract, teeth, tonsils, sinuses and even the gall-bladder be accused as foci of infection responsible for the albuminuria. This, however, is not an infective process, but a dysfunction of the ovaries, in which the ovarian hormones, folliculin and progesterin, are out of balance. In other words, it is an endocrine leukorrhea, due to anterior-lobe pituitary insufficiency.

Non-infectious leukorrhea in women of the child-bearing age is a common symptom, associated with functional menorrhagia and metrorrhagia. This condition is usually due to cystic degeneration of the corpus luteum. However, there are some cases of functional bleeding and leukorrhea in the myxedematous type of women. At the menopause, non-infectious leukorrhea, associated with irregular and profuse menstruation, is due to a dysfunctional state of the ovaries, which are slowly undergoing atrophy. The follicles are becoming atretic and there is incomplete luteinization or absence of the corpus luteum. There are usually multiple cysts in one or both ovaries, due to failure of the follicles to burst through the thickened tunic resulting from progressive fibrosis. The endometrium, if examined microscopically immediately after or during menstruation, will be found enormously overgrown and thickened, with areas of necrosis.

Infectious Leukorrhea

If one is to treat the infectious types of leukorrhea intelligently, it is absolutely essential that the etiology be established and a correct diagnosis made in each individual case. At the very first visit to the office, smears should be made of the urethra, Bartholin's glands, the vagina and the cervix, and thus not only establish the particular type of infection, but determine the portion or portions of the genital tract infected, and count the number of organisms per micro-

scopic field. When appropriate treatment has been instituted, it is well to make smears and count the microscopic fields at frequent intervals, in order to determine the progress being made. No patient should be dismissed as cured, even though the leukorrhea has ceased, until three negative smears have been made, each one following a menstrual period, if the patient is of the menstrual age.

The most frequent organism affecting these structures is the gonococcus, which has a tendency to remain viable here for a long time and, under the stimulus of sexual excess or high-pressure douches, cause repeated infection of the cervix and fallopian tubes and consequently a considerable amount of pelvic distress and a chronic discharge.

The Vagina

A discharge from the vagina is not due to a hypersecretion of glands. It therefore must originate in some condition which produces a serous exudate. In infancy, especially if the baby has diarrhea, the vulva is repeatedly smeared with fecal matter. At times bacteria find entrance into the vulval orifice and produce an inflammation. During the school age, the use of the unsanitary, circular type of toilet seats plays a foremost rôle, in that one girl with a vaginal discharge may contaminate the seat and thus spread the infection to several other girls. During the child-bearing age, lacerations of the perineum predispose to infection; also the general practice of using a dirty enema outfit for douching purposes and the habit of wiping the rectum in a forward manner instead of backward, undoubtedly are factors in transferring bacteria from the rectum to the vagina. After the menopause, atrophic changes occur in all the cells of the genital tract. The atrophy which occurs in the vaginal epithelium lessens the vitality of these cells. Often exfoliation occurs, leaving exposed areas which exude serum and make a culture medium for bacteria. The cells become macerated and shed, leaving more raw areas to exude serum and produce an itching and burning, which tortures these people day and night.

The most frequent bacteria of the vagina, found on microscopic examination, are the staphylococcus in association with the colon bacillus, gonococcus and streptococcus. However, there are two other types of vaginal infection which are more common than is generally supposed and undoubtedly are factors in puerperal infection and morbidity, and therefore are entitled to careful study. They are the *Trichomonas* and *Monilia* infections.

Trichomonas Vulvo-Vaginitis

The *Trichomonas* is an ameba-like organism, belonging to the group of flagellates. It is fifteen to twenty microns long, ten to fifteen microns wide, resembles a pear in shape and has four flagellae on its anterior end (see Fig. 1). It is extremely motile, re-

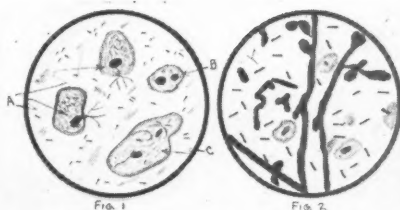


Fig. 1.—(Left) Vaginal Smear Showing (A) *Trichomonas vaginalis*; (B) Leukocyte; (C) Epithelial Cell; along with Bacteria and Debris.

Fig. 2.—(Right) Vaginal Smear Showing *Monilia* (Mycelia and Conidia), with Leukocytes and Bacteria.

produces by binary longitudinal fission and is found only in acid vaginal secretions. It does not stain readily and is best seen in the hanging drop. Approximately one out of every twelve women with leukorrhea has this type of infection. It is a frequent complication of pregnancy. Schmidt and Kamnicker found it in 22.1 percent of cases, and they state that it has a puerperal morbidity of 29.1 percent. It is thought to be transmitted from the intestinal tract^{4,5}.

The symptoms are well defined. There is a copious, thick, yellow, bubbly discharge, which has a peculiar sickening odor. There is usually vulval and vaginal burning, itching and smarting, which becomes intensified following menstruation. Digital or speculum examination is very painful. The vaginal mucosa is intensely reddened, with punctate areas of desquamation. On the vaginal vault will be seen a seropurulent collection, on the surface of which are small bubbles. Diagnosis is confirmed by finding motile flagellates in the hanging drop.

Monilia Vulvo-Vaginitis

Monilia infection is due to a fungus, of which two species have been isolated from the vagina; *Monilia albicans* and *Monilia candida*. It is thought that these are the same two species associated with other diseases of the body⁶. *Monilia* infection is now recognized as the cause of oral thrush in the newborn babe, the child receiving the infection as it passes through the birth canal of the infected mother⁷.

The fungi are gram-positive, grow well on Sabouraud's media and appear in two forms; conidia, or spore forms, and mycelia, or thread-like forms (see Fig. 2). The chief symptoms are vulval and vaginal irritation, with a discharge which may vary from a thin watery secretion to a thick purulent leukorrhea. The diagnosis is made by smears stained by Gram's method, and finding gram-positive fungi.

Endocervicitis

The cervix has sometimes been referred to as the pelvic tonsil, because of the frequency with which it becomes infected and acts as a focus of infection to other portions of the

body. Laura Moench has shown that organisms grown from a chronically infected cervix, in patients with arthritis, will produce joint lesions in the experimental animal, and that these organisms are culturally identical with the streptococci found in arthritis cases⁸.

The endocervix may be infected in virgins or the aged, but most frequently is found during the child-bearing age, because this structure not only is repeatedly exposed to infection through coitus, but is under enormous strain during childbirth. The organisms most frequently found are the staphylococcus, colon bacillus, gonococcus and streptococcus.

If the infection is mild and not repeated, the function often is not impaired. Continued irritation produces excoriation of the surface of the epithelium. Many of the glands become plugged up. Nature, in her effort to rebuild, forms scar tissue, which contracts the openings and the glands become sealed. They continue to secrete, become tortuous and form Nabothian cysts. These cysts, in turn, compress normal glands and produce an excessive secretion. If the distended cysts are numerous, a mechanical blockade of the cervix is produced, which results in stasis of the adjacent tissues. The blood vessels and lymph currents become impeded and there is a serous exudate in the surrounding structures, with hypertrophy and fibrosis of the tissue, producing a large, boggy uterus.

Endometritis

Formerly it was believed that profuse leukorrhea was due to an infection of the endometrium, and quite often the curet was vigorously used, in an effort to correct this condition. We now know that this is not true. Because of its constantly changing histologic picture, the endometrium is not a suitable place for infection to persist for any length of time. Curtis examined 200 extirpated uteri, and was not able to find evidence of infection. The use of the curet is, therefore, not warranted in the treatment of leukorrhea. Not only is it utter folly to tear the uterine mucosa into shreds when the seat of infection is in the vagina or cervix, but it is distinctly harmful, in that it has a tendency to produce menstrual disorders and an early menopause.

(To be Continued)

Salpingitis

Gonococci usually reach the fallopian tubes by way of the endometrium, while colon bacilli and streptococci most often are transmitted by way of the lymphatics and the blood stream. In gonorrheal infection the tubes are usually free of gonococci two weeks after fever and leucocytosis have disappeared. Pus-tubes are never the result of a single infection, but always due to repeated infection. If the woman is repeatedly infected, this cycle of fever and leucocytosis will be repeated, and it is indeed surprising the number of times a woman may be re-infected and not develop pus tubes.

Repeated attacks of salpingitis are pathogenic evidence of re-infection⁹. At times, however, after many attacks of gonococci on the tubes, both ends may seal up—the uterine end, because of the valve-like action of the isthmus, and the fimbriated end, due to cicatricial contraction of the serosa causing an infolding of the fimbria into the tube. When both ends are sealed, the heat, moisture and infection produce a localized necrosis and a pus-tube is formed.

The fallopian tubes are never the cause of chronic leukorrhea. An abnormal secretion of the tubes into the uterine cavity is rare, because of the valve-like action of the isthmus, unless there is a hydrosalpinx or pyosalpinx of sufficient size to force the valves open, and in this case there would be a single gush of fluid.

Bibliography

- 1.—Kottlors, E.: *Ther. Gegenw.*, No. 4, 1933.
- 2.—Seguy, J. & Vimeux, J.: L'Etude des Sterilités Inexpliquées Etude de l'Ascension des Spermatozoïdes dans les Voies Génitales Basses de la Femme. *Gynec. et Obstetrique* 27: 346-58, April, 1933.
- 3.—Davis, C. H.: Leukorrhea, with Special Reference to Trichomonas Vaginitis. *Am. J. Obst. & Gynec.* 18: 196, Aug., 1929.
- 4.—Hegman: *Jour. Parasitology* 14:27, 14: 261.
- 5.—Williamson: *J.A.M.A.* 92: 1, 528, Feb. 16, 1929.
- 6.—Stovall, W. D. & Bubolz, A. A.: Cultural and Biochemical Characteristics of Monilia Isolated from Sources. *J. Infect. Dis.* 50: 73-88, Jan., 1932.
- 7.—Plass, E. D., Hesselstine, H. C. & Borta, I. H.: Monilia Vulvo-Vaginitis. *Am. J. Obst. & Gynec.* 21: 320, March, 1931.
- 8.—Moench, G. L.: *Am. J. Obst. & Gynec.* 11: 453, April, 1926.
- 9.—Curtis, A. H.: "Textbook of Gynecology," page 270; W. B. Saunders Co., 1931.

TAXES AND GOVERNMENT

Every dollar a man pays, in excess of a proper fee for services actually rendered to him as a member of an organized society, weakens his economic stability and hence that of the nation which imposes the tax, because every dollar taken from the people for taxes, to that extent reduces their purchasing power, and with it the economic stability of the nation.

Those who are secretly waging a warfare against our economic system and our form of government hold steadfastly to the well-founded belief that both can be wrecked on the rock of high taxes.—COMMITTEE ON AMERICAN EDUCATION.

Agranulocytic Angina*

Report of a Case

By Arthur A. Thieda, M.D., Cicero, Ill.

THE original syndrome described by Schultz¹ as agranulocytosis, and later named agranulocytic angina by Friedemann² included an acute onset, usually in a woman, with a course marked by ulceration of the mouth or throat; leukopenia, characterized by a considerable decrease or absence of granular cells; and a normal red cell and platelet count, with death as the result.

Many physicians have undoubtedly treated cases of agranulocytic angina as sore throats, not recognizing the disease as a clinical entity. Perry Pepper³ recently pointed out that "putrid sore throat" probably represents agranulocytic angina, as seen and described by the laryngologists of the last century.

The term agranulocytosis is misleading, because it does not refer to the numerical change in the normal non-granular cells, but refers to the neutrophilic granular leukocytes, which are tremendously decreased or disappear entirely from the peripheral blood. Schilling⁴ has suggested the term "malignant neutropenia" as a more fitting and correct term, but this does not give the full picture because, not only the neutrophils, but all the granulocytes are decreased.

In this paper the terms "agranulocytic angina" and "agranulocytosis" will be used interchangeably. The term "granulopenia" is used where the granular leukocytes are decreased, no matter what the cause.

Following Schultz¹ report, several hundred cases have been reported in the literature. Many of the cases reported, however, do not coincide in all particulars with the syndrome originally described. In some of the cases patients recovered; some showed hemorrhagic tendencies; others showed involvement other than the throat. Since 1930, 36 cases of recurrent granulopenia have been reported. Recently attempts have been made to classify these numerous and varied cases. Harkins⁵ has a very simple classification, which is a modification of the one given by Roberts and Kracke⁶. His classification is as follows: (1) Primary granulopenia—agranulocytic angina; (2) secondary granulopenia due to (a) chem-

ical poisons, (b) radiation, (c) sepsis and (d) blood diseases, as pernicious anemia, aleukemic leukemia and aplastic anemia, (e) infections—measles, mumps, influenza, typhoid and malaria.

Lauter⁷ was the first to report a recovery. Since then, about 24 cases have been reported in the literature. Windham⁸ reported recovery of a man aged 34; Hutcheson⁹ of a woman aged 66; Call, Gray and Hodges¹⁰ reported the recovery of a woman, aged 27, as a result of roentgen-ray therapy. Harkins¹¹ reported four cases of recovery. In a later paper, however, Harkins¹² reported that three of these four have died and he is not sure that the diagnosis in the fourth case was correct.

Etiology

This bit of preamble merely shows how little is actually known of this condition and how confused we are. And when we come to the etiology we are more than ever confused. It goes without saying that where many theories are offered as an explanation, it is very unlikely that any of them will be correct. Most observers, including Schultz¹, would explain the blood picture in this symptom complex as secondary to a septic or toxic process effecting an aplasia of the myeloid cells in the bone marrow. It seems probable that the necrotic lesions in the gastrointestinal tract and elsewhere are secondary to the granulopenia. Roberts and Kracke⁶, Dwyer and Helwig¹³ and others have shown that the white cell count is low before the necrotic lesions develop. Overwhelming sepsis does not seem to be a causative factor in primary granulopenia. After granulopenia develops, numerous organisms invade the body, as is shown by the variety of organisms isolated from the blood and organs of patients. Lovett¹³ isolated *B. pyocyaneus* from her patient's throat, and produced mild granu-

*From the Surgical Department of St. Mary of Nazareth Hospital, Chicago, Illinois.

*Read before the Pathological Conference at St. Mary of Nazareth Hospital, Chicago, Illinois, May 23, 1933.

1.—Schultz, W., and Verse: Ueber eigenartige Halskrankungen. *Deutsche med. Wchnschr.* 48: 1495 (November 3, 1922).

2.—Friedemann, U.: Ueber Angina Agranulocytotica. *Med. Klin.* 19: 1357 (October 14), 1923.

3.—Pepper, O. H. P.: History of Agranulocytic Angina. *J.A.M.A.* 97: 1100 (October 10), 1931.

4.—Schilling, Victor: "The Blood Picture." St. Louis, C. V. Mosby Company, 1929, p. 197.

5.—Harkins, Henry: Granulopenia and Agranulocytic Angina. *J.A.M.A.* 99: 1132: (October 1), 1932.

6.—Roberts, S. R., and Kracke, R. R.: Agranulocytosis: Report of a Case. *J.A.M.A.* 95: 780 (September 13), 1930.

7.—Lauter: Zur Frage der mit Agranulocytose einhergehenden Falle von septischer Angina. *Med. Klin.* 20: 1324 (September 21), 1924.

8.—Windham, R. E.: Two Cases of Agranulocytic Angina. One Death and One Recovery. *Ann. Otol., Rhin. & Laryng.* 38: 470 (June), 1929.

9.—Hutcheson, J. M.: Agranulocytosis: Report of Five Cases. *Ann. Int. Med.* 3: 883 (March), 1930.

10.—Call, M., Gray, B. H., and Hodges, F. M.: A Case of Agranulocytic Angina with Recovery. *Am. J. Roentgenol.* 20: 550 (December), 1928.

11.—Harkins, Henry N.: Granulocytopenia and Agranulocytic Angina with Recovery. *Arch. Int. Med.* 47: 408 (March), 1931.

12.—Dwyer, H. L., and Helwig, F. C.: Agranulocytic Angina. *Am. J. Dis. Child.*, 35: 1041 (June), 1928.

loopenia in rabbits. Linthicum¹⁴ recovered the same organism and with it produced granulopenia and death in guinea-pigs. Kato and Vorwald¹⁵ injected *B. pyocyaneus* (stock culture) and *Streptococcus hemolyticus* into rabbits, and in no instance did leukopenia or granulopenia develop. While a preliminary sepsis is not a factor in primary granulopenia, granulopenia can be secondary to sepsis.

That some individual idiosyncrasy or some endogenic factor is at fault has much in its favor. Hare and Childrey¹⁶ believe that the granulopenic reaction may be on an allergic basis. Endocrine disturbance and congenital weakness of the bone marrow must be considered. Agranulocytic angina is more common in females, adults and in persons in the higher strata of society. Precipitating factors include tonsillectomy, dental extractions¹⁷, and other trauma to the mucous membranes.

It is possible that the cause is exogenous. Cases of agranulocytic angina have been reported in benzene workers and after administration of arsphenamine, but when one considers the small number of cases that develop from either of these two poisons it seems unlikely that they are the primary cause. Radium, thorium X, roentgen rays, and trinitrotoluene may also produce granulopenia. Agranulocytic angina has been reported more frequently since the influenza epidemic of 1918, so that the influenzal organism may be responsible.

The point of greatest interest, however, is to decide whether the action of any toxic agent that is present is on the leukocytes in the peripheral blood stream, or on the bone marrow itself. Fitz-Hugh and Krumbhaar¹⁸ reported a case with myeloid-cell hyperplasia in the bone marrow and feel that the condition is due to a "maturation rest." The consensus, according to the cases reported in the literature, is that the chief factor in producing granulopenia is aplasia of the bone marrow, rather than peripheral destruction of cells.

Symptoms and Diagnosis

The symptoms of agranulocytic angina are those of physical and mental collapse, with a decreased resistance to bacterial flora. These patients complain of weakness and lassitude long before there is any evidence of sepsis. This malaise has been shown by Roberts and

Kracker⁹ and others to be due to the reduction in granular cells in the blood. They have shown that this disease has three onsets: a marrow onset, a blood stream onset, and a clinical onset, in the order named. Two types of cases, differing largely in the degree of severity, are observed. In one, with insidious onset, there is a mild sore throat, slight fever, considerable depression, moderate granulopenia, and recovery. In the other there is necrotic pharyngitis, complete exhaustion, hyperpyrexia, almost complete absence of granulocytes, and death. These two types may be only stages in the disease onset, or mild types of recurrent granulopenia. As soon as the granulopenia becomes severe enough, the mental and physical collapse becomes more acute. The absence of granular cells for any length of time is incompatible with life.

The symptom complex may be separated from other leukopenic states: (1) by a carefully taken history, which may reveal vague symptoms of fatigue and weakness preceding any signs of infection, thus marking the neutropenia as primary; (2) by the rapid, malignant spread of what would ordinarily prove to be a minor infection of the mouth; (3) by the severity of the general prostration and malaise and by the degree of apprehension, out of all proportion to the extent or duration of infection or of the pathogenicity of the organisms found (*Bacillus subtilis*, Vincent's bacilli and spirilla, *B. pyocyaneus*).

From a differential standpoint, most confusing are pharyngeal lesions of the streptococcal sore throat, acute follicular tonsillitis, Vincent's disease and diphtheria. Characteristic of granulopenic ulcers, however, is the clear-cut margin, surrounded by a non-inflammatory zone, all with a background of generalized edema, so pronounced that breathing and swallowing become difficult.

Constitutionally, general sepsis is at times identical; while the blood picture may show marked granulopenia and low polymorphonuclear count in the following: the anemias, aleukemic leukemia, pneumonia, tuberculosis, typhoid, various bacteremias and septicemias, as well as in poisoning from x-rays, radium and arsenicals. Bone marrow biopsy from sternal puncture has, in some instances, shown evidence of aplasia, which, if present, is pathognomonic.

Prognosis

The outlook in agranulocytic angina is very grave. With an absence of neutrophiles, patients live about one week, and fewer than 10 percent of those with the malignant type of the disease have permanently recovered. The greater the degree of neutropenia, the less favorable the outlook. Many physicians feel that patients with agranulocytic angina and sepsis who have a white blood cell count above 1000 per c.mm. have a better chance

13.—Lovett, Beatrice, R.: Agranulocytic Angina. *J.A.M.A.* 83: 1498 (November 8), 1924.

14.—Linthicum, F. H.: *Ann Otol. Rhin. & Laryng.* 36: 1093 (December), 1927.

15.—Kato, Katsuji, and Vorwald, A. J.: Agranulocytic Angina in a Child. *Am. J. Dis. Child.* 44: 556 (September), 1932.

16.—Hare, R. A., and Childrey, J. H.: Treatment of Agranulocytic Angina with Calcium Gluconate. *J.A.M.A.* 98: 2277 (June 25), 1932.

17.—Doan, C. A.: The Neutropenic State. *J.A.M.A.* 99: 194 (July 16), 1932.

18.—Fitz-Hugh, T., Jr., and Krumbhaar, E. R.: Myeloid Cell Hyperplasia of Bone Marrow in Agranulocytic Angina. *Am. J. M. Sc.* 183: 104 (January), 1932.

of recovery than those in whom it is below 1000 per c.mm. With this prognosis Jackson, Parker and Taylor¹⁹ do not agree. They report a recovery percentage of 74 in their series of cases with a white blood count of less than 1000 per c.mm.

Treatment

Many therapeutic measures have been suggested and tried in an attempt to prevent the rapidly fatal termination for the individual who has been deprived of his chief cellular defense mechanism, the neutrophilic leukocytes. Empiricism rather than therapeutic rationale has governed in most of the treatments suggested.

Good oral antisepsis, gargles and other efforts to treat the local angina may delay the entrance of organisms from the mouth and pharynx, but if the white-cell count is not raised soon enough, eventually the organisms will multiply and enter the system even from the cleanest mouth. All abscesses should be opened and drained. Careful nursing care, abundance of fluids and as much nourishment as possible are obvious parts of the treatment. Daily white blood cell counts and careful differential counts should be made. Only thus may the course of the disease be adequately followed. The use of intravenous injections of nearsphenamine are intended to combat only one type of oral flora. All treatment should be directed primarily toward raising the granulocyte count as soon as possible.

Treatments may be grouped under three heads, as follows:

1.—*Blood Transfusion*: The rationale of blood transfusion is the introduction of the active principle which will stimulate the production of granular leukocytes. Its one drawback is the small concentration of effective stimulus per unit volume of blood, which, in the more severe grades of myeloid hyperplasia, may prove insufficient. Transfusion of a pint of blood will theoretically increase the polymorphonuclears only 6 percent. No technically satisfactory method of transfusing leukocytes alone is available at present.

2.—*Roentgen-Ray Therapy of the Long Bones*: There is some difference of opinion as to the primary effect of minimal exposure to x-rays or radium. That many tissues, and especially the hematopoietic tissues, are highly radiosensitive and may be destroyed by a variable exposure to such active rays, makes of this therapeutic measure a rather dangerous one. Taussig and Schnobelen²⁰ report good results with x-ray therapy.

3.—*Use of Various Extracts and Drugs to*

Stimulate the Bone Marrow: Liver extract, iron, calcium gluconate, quinine, leukocytic extract, adenine, guanine, and sodium nucleinate, have all been used with varying results. Jackson¹⁹ and Doan¹⁷ have advanced the Nucleotide therapy. They have had unusually good success with this type of treatment. In this treatment the pentnucleotide (Nucleotide-K-96), which is an 8-percent solution of the sodium salt, is put up in 10 cc. ampules. One or two ampules daily, depending on the severity of the disease, are injected intramuscularly. Reactions occur in only a small percentage of the cases. In about four days the white-cell count begins to rise, the treatment continuing until the patient has recovered. It is suggested that no other specific therapy be employed during the administration of pentnucleotide.

Report of a Case

S. W., age 44, married, an American housewife, was admitted to St. Mary of Nazareth Hospital April 30, 1933, under the care of Dr. E. W. Johannes. She was seen by Dr. Johannes about three days preceding her admission to the hospital. The diagnosis was acute sore throat, probably streptococcal. Her condition was then by no means serious. Three days later she became very much worse and was admitted to the hospital. Through the courtesy of Dr. Johannes, I saw this patient at the hospital. The admitting complaints were anorexia, nausea, weakness and a sore throat for four days, which had become progressively worse, making swallowing and talking very difficult. The past history was irrelevant. She had had her appendix and an abdominal tumor removed five years ago.

Physical examination revealed an acutely ill, well nourished, middle-aged female. There was herpes of the lips; the tongue was dry and beefy; pharynx reddened; tonsils were gangrenous on both sides; some icterus of the sclerae. The other physical findings were essentially negative. The temperature upon admission was 102°F.; pulse, 120.

Laboratory findings: Blood; erythrocytes, 3,200,000 per c.mm.; hemoglobin, 70 percent; leukocytes, 1,400 per c.mm.; differential count showed an absence of neutrophilic leukocytes and a few lymphocytes. Urine showed 4 plus albumin, with fine and granular casts present. The Wassermann and Kahn tests were negative. A diagnosis of agranulocytic angina was made.

The next day, May 1, her condition was about the same. The blood picture showed the following: erythrocytes, 3,990,000 per c.mm.; hemoglobin, 60 percent; leukocytes, 400 per c.mm.; differential count showed an absence of granular leukocytes. A throat smear showed spirilla of Vincent's angina, for which nearsphenamine, 0.45 Gm., was given intravenously. The third day after admission her condition was very much worse. She was almost in complete physical and mental collapse. A blood transfusion was attempted

19.—Jackson, Henry, Jr., Parker, F., Jr., and Taylor, F. H. L.: Studies of Diseases of the Lymphoid and Myeloid Tissues. VII. The Nucleotide Therapy of Agranulocytic Angina, Malignant Neutropenia and Allied Conditions. *Am. J. Med. Sc.*: 134: 297 (September), 1932.

20.—Taussig, A. E., and Schnobelen, P. C.: Roentgen Treatment of Agranulocytosis. *J.A.M.A.* 97: 1757 (December 12), 1931.

in her room, but the patient died. Autopsy was refused.

Comments

The question arises as to how many of the cases reported are true agranulocytic angina. In agranulocytic angina the bone marrow element producing the polymorphonuclear neutrophilic leukocytes is interfered with, and the elements producing red cells and platelets are undisturbed. In all of Schultz' original cases, the red cells, hemoglobin and platelets were normal, and there were no hemorrhagic tendencies. The case reported above, in my opinion, is an acute primary granulopenia of the Schultz variety. While no long series of blood counts was made, the two taken show the downward trend. The history is also diagnostic—the onset with a mild ordinary sore throat, which became worse and began to fulminate with necrotic lesions. The physical and mental collapse were also characteristic. The only therapy used was the general one offered. On the second hospital day, nearsphenamine was injected intravenously, because the throat smears showed Vincent's spirilla. Blood transfusion was attempted on the third day, but the pa-

tient died before this could be accomplished. Pentnucleotide was not tried.

Summary

1.—The case reported is the first on record at St. Mary of Nazareth Hospital.

2.—Agranulocytic angina is probably a specific disease, with the primary pathologic condition in the bone marrow.

3.—The disease is one of a group of diseases and conditions characterized by leukopenia and complete or near agranulocytosis.

4.—There are three onsets: a marrow onset, a blood stream onset, and a clinical onset, in the order named.

5.—The sepsis follows the agranulocytosis rather than precedes it.

6.—Agranulocytosis itself causes characteristic symptoms of mental and physical collapse and a decreased resistance to bacteria.

7.—In diagnosis it must be sharply differentiated from the leukopenia associated with many other clinical syndromes.

8.—The loss of granulocytes is incompatible with life.

9.—The methods of treatment in use are generally ineffective.

Cretins and Mongolian Idiots

By James H. Hutton, M.D., Chicago

A GREAT many men seem to have difficulty in distinguishing between cretins and mongolian idiots. As a matter of fact, they bear so little resemblance to each other that, if the senior class, or indeed the freshman class, of every medical school could walk through the wards of the State Hospital, at Dixon, Illinois, with Dr. W. G. Murray, the difference between these two conditions would be so impressed upon them that there never again should result any difficulty in distinguishing one condition from the other. And yet, Dr. H. E. Marcellus, of the Dixon State Hospital, relates that a case of mongolian idiocy had been given about 15,000 thyroid tablets, in the belief that it was a case of cretinism.

In Illinois, and probably in most of the United States, cretins belong to the sporadic type. They usually are the children of hypothyroid parents and, in many instances, goiter has been present in several generations of their ancestors. The cretin is deficient both mentally and physically and throughout life retains many infantile characteristics. He is short, the growth deficiency amounting many times to dwarfism. The trunk is usually longer than the legs. The head is relatively large for the body. The hair is coarse, dry and brittle and there is little or none on the body or extremities. Axillary and pubic hair

is scant. The skin is rough, dry, easily chapped and usually dirty in appearance. The nails are brittle. In many instances some of the teeth never erupt. The others are irregularly placed, of poor quality and decay early. The tongue is thick and frequently protrudes from a mouth which drools saliva more or less constantly. The nose is saddle-shaped; the alae nasi and lips are thick; the palpebral fissures are narrowed; the expression is porcine; the abdomen is protuberant and umbilical hernia is frequent. Lordosis is marked (see Fig. 1).

Signs of cretinism frequently do not make themselves manifest until the third month. This may be due to the fact that the mother supplies a sufficient amount of thyroid hormone through her circulation during intrauterine life and through the milk, for the first few months. Whatever the explanation, the fact remains that signs of cretinism are rarely apprehended before the child is three months old.

Mongolian idiots do not resemble cretins. In stature they are short. The upper and lower measurement are about equal. The head is not relatively large. The skin is not dry but is smooth and delicate except on the palms, where it is coarse and rough. The hair on the head is very fine and silky, and there is very little on the body or extremi-



Fig. 1. A Typical Cretin.

ties. The axillary and pubic hair is more abundant than on the cretin. The eyes are sometimes almond-shaped, the lids being subject to a marginal blepharitis. The nose is rather small and pointed; the lips are thin, rather than thick as in the cretin; the mouth is almost circular, with radiating fissures in the lips; the teeth are not of good quality, but are not so markedly deficient as in the cretin; the ear lobes are attached to the side of the head and not free; the head has no occipital protuberance; the little finger is characteristically short (the so-called Telford-Smith finger); the inter-digital spaces between the great and second toes are very wide (see Fig. 2).

Menstruation occurs irregularly in both mongols and cretins. The mongol is characteristically a docile, good natured and easily managed patient. Sex misdemeanors do not occur among them. They rarely live beyond the age of 30 years.

Mongolism is rare in the colored race, less than half a dozen cases having been reported; but at the present time the Dixon State Hospital has two colored mongols.

Prognosis. Cretins rarely attain a mental age of more than twelve years, even under treatment. The administration of thyroid, sufficient to restore their basal metabolic rate to normal, frequently makes them more miserable. As previously stated, mongolian idiots for the most part die young—usually before the age of 30. The outlook at the present

time is hopeless in both conditions if untreated. The state of Illinois recognizes this fact and provides homes in state institutions for cretins and mongols. Of the latter there are probably less than one hundred confined in state institutions in Illinois at this time. There appear to be fewer cretins than mongols.



Fig. 2. A Typical Mongolian Idiot.

Mongolian idiots exhibit many features which raise the question of pituitary deficiency as a factor of this condition.

Treatment. The administration of thyroid is the only thing we have to offer the cretin. Means and Richardson have the following to say about it:

"Infant cretins require relatively much larger amounts of thyroid to bring metabolism to a normal level than do adults with myxoedema, but even so, Talbot advises working the dose up slowly, because of the possible danger of producing hyperthyroidism by initial overdosing. The doses required at different ages have been found by him to be roughly as follows: .

Age	Doses	
2-4 months	15 mgm.	($\frac{1}{4}$ grain) daily
4-8 "	30 mgm.	($\frac{1}{2}$ " " " " "
8-12 "	45 to 60 mgm.	($\frac{3}{4}$ to 1 " " " " "
12-24 "	60 to 120 mgm.	(1 to 2 " " " " "
2-4 years	0.1 to 0.2 gm.	($1\frac{1}{2}$ to 3 " " " " "
4-12 "	0.2 to 0.4 gm.	(3 to 6 " " " " "

After the child attains a normal status, the dose often can be reduced."

It should be said in a general way that, if the cretin is seen early, he should have thyroid in sufficient doses to cause some signs of intoxication. Adult cretins are probably best not given thyroid. They are probably more comfortable without it. If it is given, that dose should be used which will keep the victim most comfortable.

That thyroid deficiency in the mother needs to be treated, has been abundantly shown by E. P. Sloan. He has one particularly instructive case, where a hypothyroid mother had two feeble-minded children. The administration of thyroid at the next pregnancy was followed by the birth of a normal child. Two subsequent pregnancies, during which neither thyroid nor iodine was administered, resulted in two more feeble-minded children. It is likely that the feeble-minded inmates of state institutions could be shown to be the offspring of parents having thyroid or other endocrine defects so that, more and more, endocrinopathies are becoming a problem of public health.

At the present time two very small groups of mongols are being treated in Illinois. Dr. Ivan Radeff, of the Dixon State Hospital, has one under observation and has seen some striking improvement. This he will doubtless report upon in due time. The other group* is being given an anterior pituitary preparation but, up to the present time, treatment has not been carried out long enough to justify any opinion as to its value.

For the sake of simplicity, a table of the

chief points of difference between the cretin and the mongol is appended:

	CRETINS	MONGOLS
Stature	Short or dwarf	Short
Skin	Dry, rough	Soft, delicate except palms
Hair	Dry, brittle, coarse	Fine, silky
Head	Large for body	Not large No occipital protuberance
Abdomen	Protuberant	Not protuberant
Lordosis	Usual	Absent
Hernia	Umbilical common	No umbilical
Eyes	Narrowed palpebral fissures	Almond-shaped
Eye lids	Edema	Marginal blepharitis
Nose	Saddle shaped. Thick alae nasi	Small, pointed
Mouth	Thick lips	Circular; radiating fissures
Tongue	Thick; protrudes	Cross fissured
Ears		Lobes attached to head
Fingers		Short little finger (Telford-Smith)
Toes		Wide interdigital spaces
Sexual Conduct	No misde-means	No misde-means
Age		Die young

*Since this was written treatment of this group has been discontinued as being of no value.

30 No. Michigan Ave.

Stuttering and Stammering

By John A. Glassbury, M.D., New York City

THE lot of the stutterer is sad. All through life he is the butt of ridicule. He is the joke of the class in school, he is caricatured on the stage, he is cruelly imitated in popular songs and he is even poked fun at across the radio by stuttering acts. Often his mentality is regarded with doubt. As a matter of fact, most stutterers are of a superior intelligence and their difficulty in speaking is the evidence of a highly sensitive personality. Idiots and imbeciles have speech defects, but it is rare to find a true stutterer among them. The nature of their trouble is a lack of vocabulary, poverty of ideas or an inability to pronounce correctly, whereas the stutterer may have a rich vocabulary, an abundance of ideas and is able to pronounce correctly once he gets started.

Stutterers of History

History shows that the stutterer is in good company. Running down the record of time we find Aristotle, the philosopher; Aesop, the fabulist; Cato of Utica, the philosopher; Virgil, the poet; Alcibiades, the Athenian general; Demosthenes, the orator; Manzoni, the Italian poet; Erasmus, the theologian; Malherbe, the French litterateur; Charles Lamb, the essayist; Erasmus Darwin and his son Charles Darwin, the scientists; Moses Mendelssohn, the Jewish philosopher; Tartaglia, the mathematician; Desmoulins, the French revolutionist; Canon Kingsley, the English preacher; Turrenne, the Marshal of France and Mrs. Inchbold, the English actress.

Among royalty the following are a few of the recorded stutterers: Louis II and Louis

XIII, of France; Michael II, the Byzantine Emperor; Mahomet-el-Basser, King of Spain; Eric, King of Sweden, and Mary II of England. Going back still further we find mention of stuttering in the Bible. Jesus cured impediments of speech and Moses, the law giver, had to speak through his brother Aaron.

Difference Between Stuttering and Stammering

There is much confusion as to the meanings of stuttering and stammering. Abroad, especially in Germany, stuttering is defined as difficult speech or inability to speak, and stammering as incorrect speech. In this country, stuttering is described as the repetition of sound, and stammering as hesitation in speaking. Others differentiate the conditions by attributing one to failure on the consonants and the other to failure on the vowels. None of these distinctions are true. We find repetition and hesitation in the same stutterer and we find failure on the vowels and consonants in the same individual. To call stammering incorrect speech is to confuse still more, for this is really defective pronunciation. The causes, the symptoms and the treatment are alike in both conditions; therefore there is no practical difference between stuttering and stammering and they should be considered synonymous terms.

Stuttering is more prevalent than is ordinarily supposed. The statistics obtained are lower than the actual occurrence, because a great many sufferers, believing they are incurable or that there is no cure to be obtained or that they will outgrow the condition or because of geographic and economic reasons, do not apply for treatment.

It has been estimated that from 2 to 5 percent of the school children in the United States are suffering from a definite speech defect, and that about 1 percent of these are stutterers. It means that there are more than 200,000 children who stutter. To estimate the number of adult stutterers is impossible, for there is no way of obtaining the real figures. However, a conservative conclusion, based on the school census in ratio to the population of the United States, would put the total number of stutterers in the country at about one million. These figures are surely sufficiently large to indicate the prevalence of this speech defect. Furthermore, due to nervous tension of the economic depression of recent years, there has been an increase in the number of nervous ailments and of stuttering.

Causes

Most people think that stuttering is nervous speaking; but it is much more than that. Some think it is stupid speaking; this conception is entirely wrong. Fundamentally, the stutterer is a high-strung, sensitive individual, usually descended from a nervous or emotional stock. Not infrequently there is a

history of stuttering in the family and heredity is an important causative factor. Stuttering is found in succeeding generations in families, but great care must be taken to distinguish between what is imitation from contact and what is true heredity.

But not every high-strung, sensitive individual stutters. There must be something more than a neurotic predisposition—and there is. There is an exciting cause, which is some sort of shock which brings on the speech defect. The shock may come from a fall, an operation, nervous exhaustion following scarlet fever, measles or any severe infection or it may come from fear, embarrassment, anxiety or a frightful experience.

One child began to stutter the day after he boarded the steamer for emigration to the United States; another when threatened with a knife; another when abruptly called upon to recite in the classroom; another upon starting to go to school for the first time; another after the sudden death of his mother; another after being taunted with the cry, "red-head," by his playmates; another after being told a lurid ghost story; and still another in imitation of his father.

Though stuttering is primarily a mental affliction, physical factors may be associated with it and they may act as aggravators. These physical factors are adenoids, tumors of the tongue and mouth, harelip, missing teeth, growths within the nose, tongue-tie and defective hearing.

A young lady of eighteen stuttered and lisped, but she had begun stuttering long after she lisped. Much time and money spent on the fake type of stammering schools proved of no benefit. Her lisp was caused by tongue-tie. A minor operation freed the tongue. The lisp disappeared, and soon after the stuttering stopped. In her case, the stuttering was brought on by her sensitiveness over the lisp. Curing the lisp cured the stuttering.

Sex Problems of the Stutterer

The importance of correcting speech defects, and not allowing them just to "out-grow" themselves or trusting to fate, can be appreciated only when the far reaching evil effects produced by these disorders are fully understood. Inferiority complexes, shut-in personalities, emotional instability, criminality, maladjustment and antisocial characteristics are some of the results of stuttering.

Gertrude Grant was referred to me by the social service department of the largest hospital in the city. A few weeks previous she had given birth to her second illegitimate child. Commitment of the children to an orphanage was necessary and the mother was sent for a mental examination to determine her competency. The psychologist reported that the woman stuttered so badly that it was impossible to determine her mental rating.

Her stuttering began at eighteen years of age and prevented her from participating in the activities of her fellow mill workers. She stayed at home and brooded. Then a man came along and she was grateful for his attentions, but unless she yielded to all his wishes he threatened to leave. She feared her loneliness. She would do anything rather than lose this only friend, and so her first illegitimate child was born. The man promptly deserted her and despite her sacrifices she was alone again.

A few years later Gertrude met another man. A similar story of friendship, love, lust, fear of loneliness, pregnancy and her second child was born. This man, too, abandoned her. Gertrude Grant was not feeble-minded and she was not immoral. She stuttered. She had no friends, no sympathy, no love—nothing but ridicule and jeers. She met one man and then another. She clung to them as long as they would have her. Any cost was preferable to her solitude. People would not have her, so she grasped from life what she could. Her stuttering was the direct cause of her misfortune. She was the victim of her speech defect.

Criminality and Stuttering

The "Stammering Kid" was arrested July 27, 1927, for attempted extortion. When arraigned before Magistrate McAndrews, of the West Side Court of New York City, he begged the court to keep his name secret so as not to shame his hard-working, respectable father. The "Stammering Kid" had talent. He was a violinist and wanted to be an actor, but he stuttered and could not get along. His story goes back to a small New Jersey town. To use his own words:

"It's harder to get on in school if you stutter than it is for ordinary boys. It takes you so long to answer a question you look as if you were stupid and the others giggle at you. No one likes that." So the sensitive boy ran away from school and home. He took to the road. There were times when he was hungry and without money. During one of these hunger spells he went to the apartment of a woman he had met and begged the price of a meal. He was too persistent and the woman told him to go away. Thereupon he threatened to tell stories about her to her husband and the woman had him arrested for attempted extortion.

In the eyes of the law, this lad was a criminal, but the understanding judge gave him a suspended sentence. In the eyes of humanity, he was the unfortunate pawn of his speech defect. If this boy's stuttering had been cured, he would not have left school, run away from home, taken to the road, starved and turned to extortion.

Mental Deficiency and Stuttering

Joseph, twelve years old, had been making very poor headway in school. He was only in

the fourth grade instead of the sixth, the proper one for his age. The school authorities finally decided to place him in the ungraded class for mental defectives. This boy was a severe stutterer. His speech trouble had started when he entered school at the age of six. His father also stuttered, but in a mild degree. His case was one predisposed by heredity, influenced by imitation and brought on by the emotional upset associated with the first attendance at school.

When I questioned this boy he failed on many simple questions, such as even a mentally defective child of his supposed type should have passed. This aroused my suspicion as to his true mentality. For instance, when asked how much eleven plus eleven were, he became red in the face, stiffened up and, after a great visible effort, blurted out "t-t-two" and stopped in a bath of perspiration. Feeling confident that the boy knew better, the procedure of examination was changed and the question was written down. Without hesitation, the stuttering boy scribbled the correct answer.

What had happened? When the boy attempted to give the answer orally, he stuttered. He could not form the phonetic combinations necessary for the sounds in "twenty-two" and got only as far as the "t-t-t" and the sound "two" came out, an easy combination. His voice imprisoned, he let it go at that. A teacher in a classroom, taking care of forty or more pupils, has no time to analyze a stutterer's intent nor wait for him to correct himself. So Joseph was considered wrong. Every failure aggravated his condition and subsequent questioning would throw him into an emotional panic, which was erroneously interpreted as mental deficiency.

The stutterer, because of his handicap, cannot mingle with others of his age and kind. He keeps to himself and eventually looks upon himself as different from others of his sex. He cannot choose his friends, but must take them when he finds them. This may throw him into undesirable company. He cannot court girls of his desire, so he either turns into himself and becomes an introvert and a masturbator, or falls prey to homosexual practices.

Life Work of the Stutterer

The career of the stutterer is largely governed by his speech handicap. He may rise above it and, by close application and will power, become an orator like Demosthenes, a preacher like Kingsley or an actor like Mrs. Inchbold, using his very defect as his strong point. But what suffering, what agony, what tears before this is accomplished! These instances are sufficiently unusual to make them historical, but nevertheless they show the possibilities of success in vocations one would think impossible to the stutterer.

The usual course for the stutterer is to

seek an occupation that does not necessitate talking. Automatically, this closes many fields to him. The professions of law, medicine, dentistry; also selling, telephone operating, teaching, the ministry, acting and numerous other occupations and positions are not for him. As a result, there are many stutterers of high mentality and superior education doing menial work—washing dishes, scrubbing floors, digging in the streets, painting fences, routine factory work—any kind of labor that does not require talking.

Treatment

The treatment of stuttering requires patience on the part both of the subject and the physician. A cure is possible, but there must be faith and diligence. The process is slow and improvement at the end of a few months is a favorable omen. Stutterers are usually of an emotional, unstable type and this so-called "nervousness" must be overcome. Physical factors must be removed. Suggestion is use-

ful in creating a spirit of self-confidence. Psychoanalysis may be employed to reveal the nature of the mental conflict. Relaxation exercises overcome the stiffness; breathing exercises give proper breath control; vocal gymnastics strengthen the muscles of speech; and phonetics corrects improper speech habits.

Speech defects can be cured. Though the treatment is difficult and tedious the results are worth the efforts. By overcoming a speech disorder, we change the attitude, behavior and personality of the individual and readjust him to his environment. The sooner the treatment is undertaken the better the results. Finally, a course in the reeducation of speech is a course in mental and physical hygiene. Relaxation, proper breathing, self-control, good posture, muscular development, poise, equanimity, mental balance and straight thinking are some of the results. In brief, speech reeducation is character building.

150 W. 55th Street.

The A. B. C. of Cancer

6. Tumors of the Lymphatic System*

(Part I)

By Charles F. Geschickter, M.D., Baltimore, Md.

Surgical Pathological Laboratory, Department of Surgery, Johns Hopkins Hospital and University

THE lymphatic network, from the standpoint of evolution, is a comparatively recent addition to the vascular system. The first true lymphatics appear in amphibia, in the form of lymph hearts, arising from the segmental veins, Sabin¹, McClure² and others have shown that the lymphatics arise from the venous system by a process of budding of endothelial-lined spaces. These spaces subsequently become an independent system of closed vessels, and finally re-establish connection with the veins in the jugular and subclavicular regions. The lymph hearts of amphibia are represented in mammals by lymph sacs derived from the veins of the neck (the jugular lymph sacs) and from the renal veins in the abdomen (the renal lymph sacs). These sacs are the first lymphatic structures to appear in human embryos.

The jugular lymph sacs in man give rise to the lymph nodes and lymphatics of the head, neck and arm. In addition, special sub-epithelial collections of lymphoid tissue develop in connection with the respiratory tract and the tonsils. This portion of the lymphatic system may be conveniently termed the *cervical-respiratory division*.

The renal lymph sacs give rise to the retroperitoneal and iliac sacs and the cisterna

chyli. From the retroperitoneal sacs the lymphatics of the digestive tube develop, together with sub-epithelial collections of lymphoid tissue, such as Peyer's patches in the ileum and the solitary nodes of the lower bowel. From the iliac lymph sacs the lymphatics of the groin and lower extremities arise. This portion of the lymphatic system may be conveniently termed the *abdominal-digestive division*. In addition to these two major anatomical divisions of the lymphatic system there are two specialized lymphatic structures, the spleen and bone marrow (and the Haversian systems).

The primary lymph nodes develop from lymphatic sacs (with the exception of the post-aortic). Endothelial channels, supported by bands of connective tissue, bridge the sacs to form a lymphatic plexus. In the interstices of this plexus, beneath the fibrous tissue capsule which envelops the future node, the germinal centers have their beginning. Aggregates of eosinophiles, plasma cells and macrocytes appear, from which the small lymphocytes eventually take origin. These proliferating lymphocytes at the periphery of the germinal centers extend toward the center of the node to form the pulp cords.

Both primary and metastatic tumors are common in the lymphatic system. The lymph nodes are most frequently affected by ma-

*This work was aided by a grant from the Anna Fuller Fund.

lignant growth. In most instances primary tumors of the lymph nodes begin either in the *cervical-respiratory* region, involving the tonsil or cervical nodes, or at their inception have an *abdominal-digestive* distribution. Occasionally neoplastic changes arise either in the bone marrow or spleen. This is particularly true of lymphatic leukemia and more rarely of Hodgkin's disease. When the neoplastic process is advanced or fulminant the lymphoid distribution is widespread and all of these structures are involved.

The lymph sacs, the lymphatic vessels and the lymph nodes each give rise to special groups of tumors. The primary lymph sacs may be the seat of cystic tumors and the peripheral lymphatic plexuses may form subcutaneous lymphangiomas. From the fore-runners of the germinal centers in the lymph nodes, recticulum-cell sarcomas arise; while the proliferating lymphocytes are involved in the formation of lymphosarcoma and lymphatic leukemia.

A summary of the structures in the lymphatic system, in relation to development and to tumor formation, is presented in the following table:

DEVELOPMENT OF LYMPHATICS AND LYMPH NODES IN RELATION TO TUMOR FORMATION

STRUCTURE	ORIGIN	TUMOR
1. <i>Lymphatics</i> Vascular Channels	<i>Lymph Sacs</i> (hearts)—formed from network of segmental veins. <i>Sinuses</i> —cavernous spaces become reticulated; both lymphatic sinuses and vascular channels formed.	1. Lymphatic Cysts. 2. Lymphangioma. 3. Angiolymphoma.
2. <i>Stroma</i> (Fibrous and Reticular Elements)	<i>Capsule</i> —formed about network by neighboring connective tissue. <i>Pulp Cords</i> —formed by invasion of fibrous septums.	1. Sarcomatous Hodgkin's. 2. Hodgkin's Disease.
3. <i>Germinal Centers</i> (Follicular Lymphoid Tissue)	<i>Endothelial Cells</i> —Eosinophiles, plasma cells and other cells appear in periphery beneath capsule. <i>Macrocytes or Hemolymphoblasts</i> —appear within endothelial network from endothelium, from connective tissue, or wander in (myeloid in origin) to form germinal centers. Lymphatic origin of macrocytes is favored.	1. Reticulum Cell Sarcoma. 2. Malignant Folliculoma. 3. Follicular Adenoma.
4. <i>Lymphocytes of Pulp</i> (Nodular Lymphoid Tissue)	<i>Lymphocytes</i> —develop from macrocytes of germinal centers and fill pulp cords.	1. Lymphatic Leukemia. 2. Lymphosarcoma. 3. Benign Lymphoma.
5. <i>Myeloid Elements</i>	<i>Myeloid Cells</i> —other wandering cells circulate through sinuses of the lymphatic node, including myeloid varieties; some are formed in situ.	1. Leuko-sarcoma or Chloroma. 2. Myeloid Leukemia. 3. Myeloma (Plasma Cell)

Tumors of the Lymphatic Channels

Lymphatic Cysts: The lymphatic sacs, the lymphatic vessels, and the lymph nodes with their lymphoid follicles, each gives rise to special groups of tumors. From the primitive lymphatic sacs cystic tumors may develop. They are congenital in origin and usually discovered in children at the anatomic sites of the lymph sacs. Cystic hygromas or lymphatic cysts of the neck (hygroma colli) oc-

cur in the region of the jugular lymph sacs. Over 100 of these cases have been reported in the literature (Dowd¹) and twenty are recorded in the Laboratory. They are situated most frequently low in the neck, just above the clavicle, or sometimes below this bone and toward the axilla. A soft, progressively-enlarging tumor without other symptoms is discovered, which may attain the size of a child's head. Similar cysts developing from the abdominal lymph sacs are common in the mesentery or in the retroperitoneal spaces. These mesenteric and retroperitoneal lymphatic cysts are more frequent than cystic hygroma, over thirty being recorded in the present series. They are prone to produce symptoms by compression of the neighboring abdominal viscera and may cause intestinal obstruction.

Examination of these cysts under the microscope shows dilated spaces lined by connective tissue or by endothelium. Smooth muscle and occasional collections of lymphocytes occur in the stroma. Lymphocytes, apparently derived from the endothelial lining, may occasionally be seen within the lumen. Hemangiomatous areas where the lymphatics

join with the veins may be observed. These venous connections indicate that the tumor is an embryonic proliferation derived from the primitive lymph sacs, rather than a failure of the lymphatic spaces to join with the veins.

Excision is employed most frequently for these cystic tumors. In the neck and retroperitoneally, complete surgical extirpation may be extremely difficult or impossible and

may be supplemented by interstitial and external irradiation (Figi and New'). Pre-operative irradiation may facilitate surgical treatment. In the mesenteric cysts, resection of adjoining bowel may be necessary. One case in the present series, of retroperitoneal cyst, had numerous daughter nodules lying free in the peritoneal cavity. These were sponged out with ether and the patient has remained symptom-free for over a year.

Lymphangioma: Proliferation and expansion of the superficial lymphatic channels is relatively common and gives rise to subcutaneous lymphangioma. Most lymphangiomas are congenital, a few traumatic in origin. Seventy cases of this type are recorded in the Laboratory. These tumors are most frequent in children and young adults. They are common on the lip, tongue and mucous membranes of the mouth; more frequent about the head and on the upper extremities than on the body and lower extremities. They form colorless, compressible swellings, with progressive enlargement when occurring in early life. They may ulcerate or become infected. Some reach a stationary condition, remaining as doughy, sacculated masses beneath an hypertrophied and thickened epidermis.

These tumors are similar in microscopic structure to the lymphatic cysts. Dilated lymphatic spaces lined by endothelium, filled with coagulated lymph and surrounded by varying amounts of fibrous tissue with scattered collections of lymphocytes are characteristic.

The more rapidly growing lesions may be excised or controlled with irradiation, or both treatments may be combined.

Angiolymphoma: The relation of lymphangiomas to tumors of the lymph nodes is shown by rare examples of lymphangioma, in which numerous embryonic lymph nodes form in a network of lymphatic channels. This transformation of lymph vessels into lymphoid tissue or nodes duplicates the embryologic development of the lymph nodes. Two such cases were on file and Ewing⁵ has recorded one on the cheek, congenital in origin. One of our cases was congenital and occurred in the neck of an infant three months old. There was a relatively circumscribed mass of dilated lymphatic channels, with a partial capsule at one margin. Just beneath the capsule was a group of six or more definite germinal centers, filled with large and small lymphocytes. The treatment of this rare form of tumor does not differ from that of other lymphangiomas.

Tumors Related to the Stroma or "Ground Substance" of the Lymph Nodes

Proliferation of the stroma about the lymphatic vessels is a feature of the early development of the lymph nodes. In this ground substance many eosinophiles, large monocytes and reticular cells appear. The exact origin



Fig. 1.—Path. No. 2415: Photograph of a child ten years of age with Hodgkin's disease of the left cervical lymph nodes. The enlarged nodes palpated as discrete nodules, despite the advanced stage of the disease.

of the lymphocyte in relation to this ground substance is not clear, but from the standpoint of tumors this cellular pattern is closely allied to the histologic pictures seen in various forms of Hodgkin's granuloma.

Hodgkin's Granuloma: Typical Hodgkin's disease usually begins in the cervical lymph nodes and involves, in order, the left and right cervical regions, the axillary, inguinal, mediastinal and retroperitoneal nodes. Primary involvement has been described in the tonsil, thymus, liver and spleen and occasionally in the skin or bone marrow. The disease tends to spread to the entire lymphatic system and may metastasize to all organs of the body.

Young adults are usually affected (see Fig. 1) and it is rare to find the disease after the age of forty. An intermittent fever accompanies the illness. By some this is attributed to the sarcomatous nature of the growth and by others to necrosis and secondary infection. The clinical course terminates fatally in from three to five years, but life has been prolonged beyond five years and as much as twelve years by deep x-ray therapy, which shrinks the enlarged nodes rapidly but does not safeguard the patient against the return and ultimate fatality of the disease. Such treatment with deep x-rays offers an important therapeutic test in differentiating the disease from infectious lymphadenopathy.

The diagnosis of typical Hodgkin's disease depends upon microscopic examination. The number of cases recorded in the Laboratory

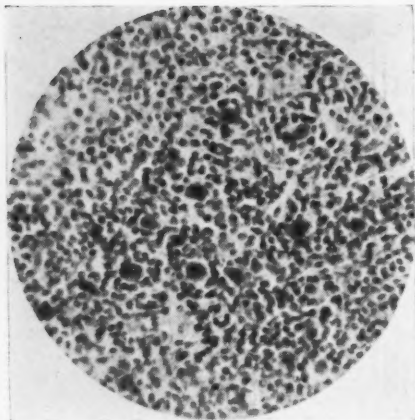


Fig. 2.—Path. No. 24199: Photomicrograph showing the typical structure of Hodgkin's disease. Large Dorothy Reed cells stand out prominently in the center of the photograph.

is 200. The tissue, in addition to its cellular lymphoid character, shows the presence of large endothelial giant cells (known as Dorothy Reed or Sternberg cells), the presence of numerous eosinophiles and an increase in the reticulum and fibrous stroma, which usually results in obliteration of the germinal centers (Fig. 2). Warthin⁶ has stated that the presence of Dorothy Reed giant cells and eosinophile cells constitutes the chief diagnostic factor microscopically. The increase in the stroma of the gland with increase in the endothelial elements or the so-called reticulo-endothelio blastoma forms of Warthin, most commonly referred to as fibrosis, is also an important microscopic characteristic from a genetic point of view.

The proliferation of this reticulum relates the tissue of Hodgkin's disease to the early network of lymphatic capillaries which precedes the development of the lymph node. This relationship to normal development and the radiosensitivity of the lesions, as well as their uniformly fatal termination and general clinical characteristics, favor an interpretation of sarcoma rather than granuloma. Although much work has been done to establish the tuberculous origin of Hodgkin's disease, most of the organisms obtained on culture of these tumors are normally present in lymph nodes as a result of the lymphatic drainage of infected areas, and are not necessarily of etiologic significance. The more highly differen-

tiated and typical form of Hodgkin's disease is predominated by the formation of macrocytes—Dorothy Reed cells—the eosinophile and the lymphocytes, and may transform into lymphosarcoma or lympholeukemia. On the other hand, the more malignant and undifferentiated forms show a predominance of reticulo-endothelial elements and must be classed as atypical or sarcomatous Hodgkin's disease.

Atypical Hodgkin's Disease—Sarcomatous Hodgkins. A type of malignant tumor originating in the lymph nodes may closely resemble, under the microscope, benign granulation tissue in many areas and Hodgkin's disease in others. The tumors do not suppurate if not incised, enlarge rapidly but tend to disappear upon adequate doses of irradiation. The patients, as a group, are younger than those with typical Hodgkin's disease and the clinical course is more brief and more malignant. This type of tumor is a more undifferentiated stage of Hodgkin's disease and has been aptly termed sarcomatous Hodgkin's.

Under the microscope, sarcomatous Hodgkin's disease is predominated by spindle cells which, because of the interspersed lymphoid tissue, resemble chronic granulation tissue. Careful scrutiny of the section, however, shows, scattered throughout this combination of spindle cells and lymphocytes, larger cells with malignant nuclei and a small amount of eccentric cytoplasm. If the disease is prolonged, especially by irradiation, and repeated biopsies are made, there is a tendency for Dorothy Reed cells to appear and for eosinophiles and lymphocytes to increase in number, approaching the microscopic picture of typical Hodgkin's disease. There are cases in which the transition toward Hodgkin's disease is less pronounced and where the tumor tends to take on the microscopic characteristics of reticulum-cell sarcoma.

Bibliography

- 1.—Sabin, Florence: "The Origin and Development of the Lymphatic System." J. H. H. Reports, Monographs, new series, No. V.; J. H. Press, 1913.
- 2.—McClure, C. F. W.: On the Provision and Arrangement of the Embryonic Lymphatic System. *Anat. Rec.*, Vol. 9, p. 281-296, 1915.
- 3.—Dowd, C. N.: Lymphatic Cysts of the Neck. *Ann. Surg.*, Vol. 58, p. 113, 1913.
- 4.—Figs and New, Gordon B.: Cystic Hygroma of the Neck. "Surgical Clinics of North America," p. 771, August, 1931.
- 5.—Ewing, James: "Neoplastic Diseases," ed. 3, p. 252; W. B. Saunders, Philadelphia.
- 6.—Warthin, A. S.: The Genetic Neoplastic Relationships of Hodgkin's Disease, Aleukemia and Leukemic Lymphoblastoma and Mycosis Fungoides. *Ann. of Surg.*, Vol. XCIII, p. 153 (Jan.), 1931.

(To be continued)

THE MOVIES AND US

The thing we pay for reflects our taste and character. And since the cinema provides our popular entertainment, you can judge our intelligence and morals by the kind of pictures we pay to see.—ROBERT QUILLEN.

PHYSICAL THERAPY AND RADIOLOGY

ASSOCIATE EDITORS

FOR PHYSICAL THERAPY

FRANK THOMAS WOODBURY, B.A., M.D.

JOSEPH E. G. WADDINGTON, M.D., C.M.

FOR RADIOLOGY

HENRY SCHMITZ, M.D., F.A.C.S., F.A.C.R.

WILBUR H. GILMORE, M.D.

Physical Therapy Training

SOME few years ago, before physical therapy was theoretically popularized and authoritatively endorsed, such therapy was expertly administered by a more or less select few, who had acquired their training through the writings and personal teachings of the pioneers. These latter were earnest students of electrical phenomena, who assiduously labored to evolve practical technics of clinical value. The theory underlying such technics was often scant, if not faulty; but while it may have lacked scientific conception, it assuredly acquired a sound and satisfactory empiric basis founded upon careful experiment and keen observation. Sound theory associated with sound practice tends to perfection; lacking one or the other—as a plausible theory does not invariably ensure correspondingly rational practice—satisfactory practice or technic should not be discarded for want of an equally gratifying theory.

Today there is an extremely embarrassing profusion of, supposedly, highly scientific and abstruse theories involving the physics and physiology of electricity and its innumerable modifications and adaptations. Drug medication itself is now recognized, in its ultimate and intimate analysis, as essentially an electrical manifestation or reaction between varying numbers of electrons and protons. The unfortunate thing, however, is not that we have a bewildering superfluity of theoretical concepts, and that some are definitely antithetical to others, but that entirely too much time and energy is being diverted to the study and criticism of such theories, and but little, contrastively, is being expended upon the practical application and investigation of such

therapy as has assuredly, albeit empirically, proved itself to be reliable in its results.

Let us not be fallaciously accused of disparaging the pursuit of scientific knowledge, but let it be recognized that the pursuit of too much theory, *per se*, leads to the neglect of its practical utilization. The patient is appreciatively interested in alleviative results, and not tenuous hypotheses. All the scientific assumptions in the world weigh less than a single beneficent result.

Somewhat recently, medical colleges have incorporated into their curriculums a course in physical therapy. Usually this is an elective course, consisting of only a few hours devoted to the physics and theory of the various physical therapy agencies, with but little clinical or practical demonstration. Post-graduate instruction is available in some institutions, but not conveniently or attractively utilizable for the large majority of those in need of it. With the slowly increasing development of these college courses there has arisen, upon the part of their sponsors, severe criticism and condemnation of "itinerant" and "commercial" courses. Whatever may or may not have been its defects of omission and commission, the teaching now deprecated at least aroused a dormant profession to recognition of physical therapy. Had the courses been judiciously supervised, and not condemned in toto, by their opponents, physical therapy would not be in the ambiguous position it occupies, in some quarters, today—equally vitiated by over-enthusiasm and by faint praise.

Certain physical therapy associations are sponsoring a highly elaborate graduate course

of training for technicians. Naturally, the higher the education, the higher and higher becomes its cost in time and money; with a correlative higher and higher cost of the technician's subsequent service. The increasing number of suits for physical therapy malpractice and the concomitant increasing cost of insurance against such contingencies is incontrovertible proof that a considerable number of physicians are but *dabbling* in physical therapy. What the busy or would-be-busy

practitioner urgently needs is an inexpensively trained office assistant who, for a reasonable compensation and *under the physician's supervision*, can competently and safely administer such physical therapy agencies as are conveniently utilizable in the office; and who is not so highly educated as to be reluctant to attend to the non-technical details incumbent upon the "office girl" in a general practitioner's office.

J. E. G. W.

A Simple Method of Colonic Irrigation

By F. D. La Rochelle, M.D., Springfield, Mass.

MY FIRST experience with colonic irrigation was as an intern in a large hospital. At that time peritonitis was a distressingly frequent complication of abdominal operations. In the few hours and days that followed these procedures, the abdomen distended, no gas could be passed per rectum and the patient vomited copiously. These unfortunate patients went on in this condition for days until, by means of heroic procedures, gas was passed. Recovery was then rapid. But the passage of gas was the decisive moment and, as I recall now, milk and molasses enemas were the favorite formula, but even this oftentimes did not give the desired result and one of the old orderlies had a justified reputation of succeeding where all others failed. His method was to use large quantities of warm solution, which he introduced by means of two rectal tubes into the rectum; one, a smaller, acting as an inlet; the other, larger, as an outlet. This procedure, while it required considerable skill on the part of the operator, was very effective in relieving the patient and soiling the entire bed.

When I started practice and met with similar cases I attempted, with more or less success, the two-tube procedure, and later I obtained some rectal tubes that did essentially the same thing, but in a more simple way. Yet there was always a certain amount of leakage around the tube, and the lumen of the tube was so small as to admit only liquids, or certainly only finely divided particles. My next experience was with the type of tube of which the Vattenborg apparatus is a good example. These represented an advance, but were then far from perfect.

It was at that time that I became acquainted with Shellberg's work, and I spent considerable time with this technic. As a result of this I readily convinced myself that, while this technic was difficult, time consuming and in many respects unsatisfactory (but most of all dangerous), yet it was obvious that a tube can be introduced into the cecum; and the results were certainly good.

When we were using this technic we had for a patient a very refined man who went on periodic drunks. The nurse was giving him an irrigation one day when he turned and said, "Nurse, do you get a thousand dollars a day for this work?" "Why no," she replied. "Well," said he, "it is worth it." That was an occasion for jest at the time, but it made a profound impression on me and I determined to find a method that would be safe and effective, yet would be free of the well known objectionable features of the conventional technic.

The Apparatus

About that time, largely the result of accident, while giving an improvised demonstration, I conceived the idea of using the patient's own sphincter as a release valve. Once the principle was recognized, progress was rapid and led to the perfection of the present equipment, which I believe to be more simple, practically fool-proof, safe, and yet more effective than any apparatus with which I am now acquainted. This apparatus has the outstanding advantage of not soiling the patient or the table, even when the patient is fully clothed, and yet I have demonstrated on numerous occasions that, with this simple instrument, the colon can be evacuated, cleansed and treated about as simply as one can take a bath.

Now what do we aim to do by colonic irrigation? Evidently we must first empty the colon—the entire colon, cecum included—of its liquid and solid contents. Then, if we wish, we can use medicated solutions of one kind or another.

This apparatus has one shortcoming; namely, that it cannot be used on a recumbent patient. It is limited to patients who can assume the sitting posture. For patients in bed, I know of no entirely satisfactory equipment, but happily peritonitis is not so frequent nowadays and, with good preparation before the operation, it is not usually necessary to concern ourselves so much about the passage of gas.

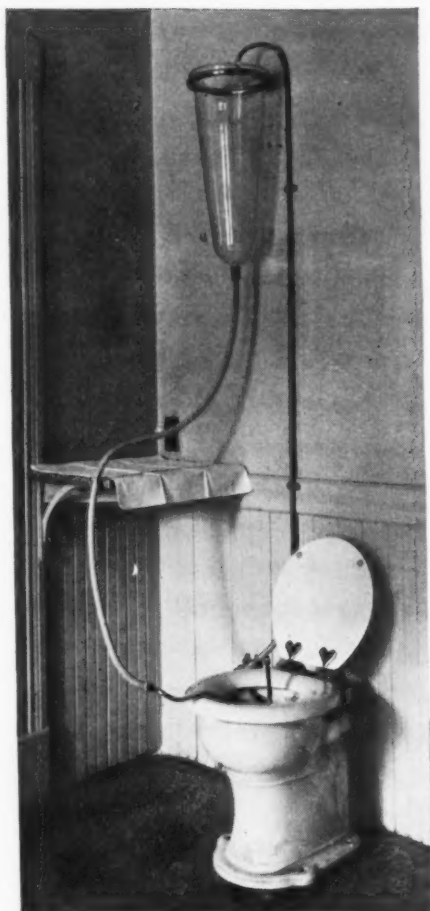


Fig. 1

The instrument (See Fig. 1) consists of a metal tube bent so as to conform to the contours of the body, with a rounded tip that is introduced into the ampulla, while the sphincter closes around the shank. The solution is fed into the rectum by means of a bulb, in the case of the portable model, and with a reservoir in the stationary model. In each case soap solution is used, made up by dropping a large cake of soap into hot water and then cooling this to the desired temperature by adding cold water.

Here we may discuss the old question whether liquids can be introduced as far as the cecum by a tube in the rectum. This point can be decided so readily that it is not necessary to spend much time with arguments. In the first place, everyone knows that barium enemas, which consist of barium sulphate and water, when introduced into the rectum with a common tube, will reach the

cecum in a few moments, as has been demonstrated repeatedly by x-rays. Then, too, surgeons who operate for gangrenous appendicitis, and a cecal fistula develops, know that, when an ordinary enema is given, it will run out, in part, through the wound. This can leave no doubt that solutions not only can reach the cecum in this manner, but that there is nothing difficult about the matter; and I look upon the use of a cecal tube for this purpose as clumsy, time-consuming, dangerous and absolutely unnecessary.

Technic

In order to give a patient an irrigation with this apparatus, all the patient need do is to sit on a conventional toilet seat. The tip is well lubricated with vaseline and introduced through the sphincter by the patient himself, without the necessity of disrobing or even exposing the parts. Once the tip is in place, the solution is introduced, either by the bulb or gravity, until there is a sense of fullness, when the sphincter may be relaxed and the abdominal muscles contracted, and in this manner the contents of the rectum, well mixed with soap and water, will pass out and the sphincter will contract once more about the tube, and the process can be repeated.

In the second instance the rectum is free of any solid material and the fluid will reach the rectosigmoid sphincter. If the tendency to expulsion is resisted and the abdominal muscles relaxed, the fluid will pass into the sigmoid and distend the lumen, provoking a contraction. The contents of the sigmoid will then pass into the rectum and be expelled. At the next attempt the fluid will reach the splenic flexure and eventually the cecum. By using from three to six gallons of soap and water in this manner, the whole colon is first emptied and then washed—an internal bath, so to speak. And this is a good term, for the process is about as simple as taking a bath and has about the same effect.

Indications

Assuming that we accept this simple technic, what are the indications for this treatment? We use this apparatus to cleanse the colon before operation; in preparing patients for x-ray examination; and in the treatment of constipation. If anyone believes that all diseases are of colonic origin, this apparatus will serve to prove or disprove the point. I am not convinced of the soundness of this theory for, while a patient here and there will obtain striking results from colonic irrigation, on the whole I am not convinced that there is anything miraculous about the results. For those who believe the colon is of supreme importance in causing disease of all sorts, this apparatus will enable them to wash and treat the colonic mucosa to their hearts' content.

In the practical application of colonic irrigations in private practice, in addition to the

uses just mentioned, they may be employed in preparing patients for examination of the abdomen. It is a common occurrence for patients to come for examination with a full rectum and distended colon. Examination of the abdomen is then deceiving. One can readily feel what appears to be a mass in the rectum, pelvis or abdomen, which completely disappears after an irrigation. Pelvic examinations are made immeasurably easier and tender areas in the abdomen can be recognized with ease once the colon is empty.

Whether colonic therapy will cure patients suffering from chronic arthritis, metabolic diseases, neurasthenia and the like, I do not know. Only this may be said, that all patients suffering from constipation, whether they have these ailments or not, will be benefited by restoration of the normal colonic function.

Medicine, today, is in a period of transition. Those of us who can look back so short a time as twenty-five years are astounded with the developments of medicine in that time. Im-

proved diagnostic procedures, refinements in treatment and a much broader philosophic outlook on the part of physicians have revolutionized the practice of medicine. Yet we must not sit back contented with this advance; rather we must look to the coming years as the stage for even more rapid evolution.

During the past quarter-century the application of physiologic and pathologic knowledge to medicine has rationalized our conceptions and caused the basic sciences to be examined anew for directions in which our efforts shall be bent. Of all these, physical chemistry, scarcely known a generation ago, bids fair to become the foundation of the new medicine. Colonic therapy is but an application of physical and chemical knowledge to the problem arising from disturbances in the colon, and this science is the open road that leads to further, broader and fuller achievements.

89 Belmont Ave.

NOTES AND ABSTRACTS

Sun Bathing for Cardiac Patients

PATIENTS with heart disease should be particularly careful when exposing themselves to the sun. Overexposures and severe sunburns throw an added burden on the already diseased heart.

The following is what I have found, with cardiac cases in my private practice, to be the best and safest method of avoiding unfavorable reactions to sun treatment.

Those cases that fall in Class 2B, in the classification as adopted by the American Heart Association (patients with organic heart disease, unable to carry on ordinary physical activity without discomfort and whose activity is greatly limited), should not take more than a 10-minute nude exposure the first day—5 minutes on the front of the body and 5 minutes on the back.

The exposures should be increased one minute each day, until 15 minutes have been reached. The 15-minute exposures on each side of the body should be continued for one week, and then the exposures again increased, two minutes each day, until 30 minutes have been reached, totaling one hour. Patients in this class should not take nude exposures totaling over one hour in any one day.

Patients in Class 2 A (with activity slightly limited), should begin with 6-minute exposures, increasing the exposures two min-

utes each day until 15 minutes have been reached. The 16-minute exposures, on each side of the body, should be continued for one week, and then increased two minutes each day until the patient is getting a total of 70 minutes. On the average, I have found that it is unwise for these patients to take nude exposures totaling over an hour and a quarter in any one day.

Patients in Class 3 (organic heart disease, with symptoms and signs of heart failure when at rest; unable to carry on any physical activity without discomfort) should not be allowed to leave their beds for sun treatment. If possible, the bed should be rolled or carried into the sunlight and short exposures given. The degree of cardiac failure should be the guide to sun exposures. If any added discomfort is experienced by patients in this group, in being moved about, it is best to discard sun exposures entirely.

Sun treatments are best taken between 10 and 11 A. M., and should be followed by a nap for at least an hour. If the patient suffers any discomfort, the sun treatment should be immediately stopped. Allow an interval of two or three days to elapse and then begin over again. In those cases where insomnia becomes a disturbing factor, the exposure time should be reduced and, if necessary, all sun therapy should be stopped for

several days. Patients with dark complexions may increase the exposure time two or three minutes, but not over five minutes, during the first week.

Quick tanning of the skin is undesirable. A slow gradual tanning is the best way to get the most out of sun treatment. The patient, when taking sun treatment, should change positions every five minutes. The sun in southeast Florida is a good deal more powerful and penetrating than is ordinarily thought.

Common sense must always be used, particularly on cloudy and windy days. Cool winds should always be avoided.

B. G. POLLOCK, M.D.

Miami Beach, Fla.

Treatment of Chronic Endocervicitis of Gonorrheal Origin by Surgical Diathermy*

EXCELLENT end results were obtained in the United States Public Health Service Clinic, Hot Springs, Ark., by the use of surgical diathermy in 69 percent; fair end results in 23 percent; and poor results in 8 percent of the cases, in contradistinction to almost 100 percent failures of treatment by the older methods. The patients treated had chronic endocervicitis, in most cases probably gonorrheal in origin, characterized by a profuse, tenacious, mucoid or muco-purulent discharge.

It is advisable to select patients in whom the endocervicitis is at least of six months' duration, with cervical smears negative for gonococci. Treatment by fulguration should be done about 4 days after the completion of the menstrual period.

Bleeding occurred in 9.9 percent of the 288 cases in this series after fulguration; chronic salpingitis in 4.3 percent; and monoarticular arthritis in 1.4 percent. No strictures of the cervix were noted as a complication, although fulguration with the high-frequency current has been mentioned as a cause of stricture.

The procedure used is simply the linear grooving of the cervical canal with the high-frequency cutting current which is delivered by a Model F Endotherm, the indifferent electrode being applied to the patient's arm. The cutting electrode is a beading needle, about 5 cm. long and 0.75 mm. in diameter, which is introduced into the cervical canal as far as the internal os. No douches are taken for 3 weeks and no medication is given.

J. A. WAUGH, A.A. Surgeon.

Hot Springs, Ark.

**Venereal Dis. Information*, Nov., 1933.

NEWS



Photography Without Light

A NEW source of artificial ultraviolet rays may make it possible to take some classes of photographs without the aid of visible light, according to R. L. Zahour of the Westinghouse Lamp Company, Bloomfield, N. J.

Experiments in this direction have centered around the Westinghouse Type G-5 ultraviolet treatment lamp which, for this particular purpose, has been constructed with a bulb of black glass that filters out nearly all visible light and permits only the transmission of long-wave ultraviolet rays which in the pure state are invisible.

The accompanying photograph was made with only the ultraviolet radiations emanating from one of these lamps, there being no other visible light present in the room. The black bulb screens out approximately 99 percent of the visible light generated, as shown by the almost complete absence of halations. The exposure required $\frac{1}{2}$ second, using a fast press plate and with a lens open stop of F 4.5.

Bedside Fluoroscopy

IT is now possible to do fluoroscopic work satisfactorily at the bedside. This is made available by the introduction of a portable, right-angle fluoroscope, which does not require a dark room for its use.

STOMATOLOGY



OFFICIAL ORGAN OF THE
AMERICAN SOCIETY OF STOMATOLOGISTS

ASSOCIATE EDITOR

ALFRED J. ASCIS, ScB., M.A., D.D.S.

Physical Diagnosis Correlated with Oral Diagnosis*

By Bertram B. Machat, D.D.S., Brooklyn, N. Y.

SINCE the mouth is the common interest of every department of the healing art, our subject should naturally attract the attention of all those concerned therein; particularly so, since the mouth is unique in its general relation to the body. The vulnerability of the mouth to injury and consequent primary disease provides a prolific field of activity for the dentist, while its accessibility offers an exceptional opportunity to the physician for the study and diagnosis of internal disease at sight. Internal medicine, laryngology, pediatrics, surgery, stomatology, as is true of other specialties, come to this oracle for wisdom.

Unfortunately, however, these varied but vague interests are not conducive to a composite scheme of oral diagnosis. Rather, each specialty seeks herein, or takes from this fountain of symptoms, only that which concerns its particular interest; leaving thus, wide gaps, which, for the want of bridging and coordination, spell failure, even as the old saying, "What is everybody's business is nobody's business."

We need but consider the problem of oral sepsis to appreciate the detriment of divided interests. After two decades of medico-dental research, with the object of arriving at a sane position on oral sepsis, we are now, in spite of the patency of the mouth and its potency in producing a wide range of systemic disease; in spite of vast clinical proof and volumes of literature, still in a much mooted position on the diagnosis and management of this joint problem.

The reasons are plain. Physicians and dentists are not collaborating; yet neither, alone, is sufficiently grounded in the other's

problems to deal with oral sepsis and, for that matter, with many other border-line conditions, successfully.

Obviously, this mixed field requires a doctor of the mouth—a specialist whose business it should be, not only to treat the mouth as a local interest, but also to recognize here a signal station of internal disease; an all-around specialist who, in addition to his knowledge of local therapeutics and rehabilitation, could interpret the secondary manifestations here and correlate their management with the local requirements, always aiming toward health as the goal.

This is the aim of modern dentistry and, indeed, the practice today of many dentists. But progress along these lines is hopelessly slow, due, in my judgment, to a misunderstanding of the functions of the dentist.

While the title of such a specialist is in itself not important, nevertheless, I find that "dentist," even in this enlightened period, is associated in the minds of most people, physicians included, with one who pulls and fills teeth. This tradition evidently cannot be eradicated by a higher type and a more elaborate system of work, while its appreciation, in point of greater service and proportionately increased fees, remains unchanged. For example: an exhaustive oral survey, modern pathodontia and skilled periodontia, each separate service entails many hours of laborious work, to say nothing of the many years of postgraduate training required to qualify in these practices. What percentage of the public understands and is willing, even if they could afford it, to fairly compensate the dentist for such services? Very small indeed.

Moreover, "dentist," to my mind, is a deterrent to collaboration between the physician and the dentist. Frankly, the physician

*Read before the Tenth Anniversary Session of the American Society of Stomatologists, New York City, April 27, 1933.

does not consider the dentist capable of grasping medical problems. Consequently, many physicians and dentists, working independently, muddle through borderline complaints in a manner detrimental to the patient's interest. I hold, since all-around mouth service is needed as the ideal practice to coordinate every interest in this border-line field, that "stomatologist"—implying such fitness—is a more correct title. There are many border-line complaints in which the cooperation of the stomatologist with specialists in medicine is indispensable.

Pain in the Mouth

Pain within the mouth and jaws is clearly a border-line complaint. Incidentally, by experience, I have come to associate pain with pressure. Thus, in the dental field, pressure may prove to be mechanical, as the smallest foreign mass in contact with the pulp horn, or the pulp may be in hyperemic state due to many forerunners. An inflammatory exudate in bone, likewise, becomes painful only when a state of pressure upon the sensory nerve terminals is reached. So too, pressure exerted by a stone in the salivary duct, a foreign body in the gums (as a toothpick), fracture of bone, distension of tumors and many other conditions producing nerve-end pressure, are competent causes of pain.

Being a border-line field, our differential diagnosis considers, in addition to the history, the otolaryngologist's interests here, which must first be ruled out. Congestion, as in coryza, is a common cause of maxillary pain. Likewise a middle-ear condition, deflected septum, hypertrophied turbinates and tumors in these regions commonly reflect pain along the dental line. Conversely, I have seen a remarkable case in a young girl who, following an appendectomy, developed an acute pain in the right mastoid. An otolaryngologist was called in three times within twenty-four hours, but he ruled out his field. A dental consultation, though an afterthought by the physician, revealed a pyogenic pulp in a maxillary incisor to be the cause of the complaint. In the last analysis, pressure of the inflammatory exudate in the dental pulp area proved to be the cause of the complaint.

Technically, where a clinical search, including transillumination, pulp vitality tests and x-ray investigation, is unfruitful, a regional eliminatory process is then pursued—we resort to zone blocking by anesthesia.

Beginning with the peripheral zone, as the mental branch of the third division and the infraorbital in the second division of the fifth nerve, we carry our investigation, in the event of a negative finding (that is, where pain is not relieved), to the mandibular trunk in the lower region and to Meckel's ganglion in the upper, until the pain is ar-

rested. The injection which proves positive (by the arrest of pain) localizes the affected area for a more intensive clinical search. Failure by this procedure, in either finding the cause or thus ruling out the dento-maxillary field, is indeed rare.

Facial Deformities

Deformities of the facio-maxillary region are frequently the joint interest of the stomatologist, the internist, the neurologist, and other medical specialists.

Facial palsy, though an affection of the seventh cranial nerve, is not always unmixed by dental and oral conditions. For example: I operated upon an elderly woman for a benign tumor of the maxilla, and a Bell's palsy, not associated with our purpose, cleared up immediately.

Deformities, such as extensive maxillary prognathism, defects of the palate, harelip, etc.; pathoplasias, such as tumors, Paget's disease *osteosis fibrosa cystica*, etc.; fractures and dislocations (usually of the mandible) are not-uncommon conditions seen by the stomatologist, which, though largely within his scope, nevertheless often deserve cooperation by appropriate medical specialists.

Several years ago I saw two young boys in my clinic. One youngster, eight years of age, had a marked deflection of the mandible with partial ankylosis. The consensus, after consultations with several of the men from the medical division, was trauma at birth. The other boy, twelve years of age, revealed an innocent extension downward and outward of the left mandible, from the cuspid to the molar region. There was a history of trauma seven months before; the teeth and oral mucosa were normal; there was no pain on palpation; the x-ray depicted an area of porosity in the part involved. Diagnosis—*sarcoma*.

A woman about forty-five years of age, with a negative personal and family history, related that her upper jaw had been growing larger for a period of about two years. She had noticed marked discomfort, but no definite pain. There were no inflammatory symptoms apparent and the teeth were widely separated and distorted. Upon operation, with a view to removing the few remaining teeth and reducing the jaw to normal size, we found the texture of the bone to be highly rarefied and hemorrhagic. The pathologist's report was *osteosis fibrosa cystica*. Despite a successful operation, whereby judicious dissection brought the maxilla down to a shapely position, we found that a steady and rapid postoperative growth, returning the jaw to the preoperative contour, occurred within a year. We then reoperated upon the patient, reducing the maxilla to its normal shape again, and immediately inserted a full upper denture. At the end of another year we

found that the portion covered by the plate remained unchanged, while the part of the maxilla directly beyond the margin of the denture continued to grow, forming a shelf over its borders.

Suspicious growths and those recognized as of a malignant nature, call for the most careful kind of teamwork; still, the stomatologist should be best qualified in the detection of their early symptoms; his wider experience in mouth pathology will and should often obviate unqualified alarm to the patient.

Swellings in and about the oro-facial region are usually traceable to dento-maxillary affections, hence these should be the interest of the stomatologist primarily. However, in most cases, consultation with the general surgeon and physician will prove good practice. Indeed, diagnosis in extensive cellulitis must be predicated upon general symptoms, for the clinical picture is often that of a moribund patient. Thus osteomyelitis, empyema, trismus, and deep phlegmons are common conditions for cooperation.

Swellings of an allergic nature, as seen in cases of angioneurotic edema, are sometimes traceable to mouth conditions. For example, I have known of a case, wherein a tiny particle of arsenious paste, put into a tooth, caused angioneurotic edema, which subsided promptly upon the removal of the drug. This treatment was repeated by the dentist again and again and was always followed by the same phenomenon.

Differentiation between inflammatory swellings, whether acute or chronic, and those mixed cases wherein cysts and other neoplasms become infected and produce a true inflammatory picture, presents some exacting problems in collaborative diagnosis.

Systemic Diseases

Oral symptoms characterizing systemic disease, as innocent marginal bleeding, the various pigmentations, ulceration, discolorations and sloughs, I have found, clinically, to be, with a few exceptions, not pathognomonic. Their presence, for the most part, bespeaks an intermediary stage of distant disease. Thus the clinical picture in the mouth offers a clue for investigation by concerted medico-stomatologic team work. Incidentally, as expressed by Dr. Lintz, "the life-saving opportunities of the dentist, in his early observation of these systemic symptoms, cannot be over-emphasized." And, on the contrary, the dentist who would proceed to operate without a preliminary investigation of a markedly livid buccal fold; icteric, purpureal or metallic dis-

colorations of the mucosa; unaccounted-for, persistent but innocent bleeding of the gingiva; or non-traumatic ulceration in this field, may have unhappy complications. Clearly, hemanalysis, as an aid in diagnosis, should be established as a routine practice in stomatology.

On a biologic basis, dentists are apt to attribute most of the wider ulcerations in the mouth to Vincent's infection, losing sight of other and more potent organisms and deep-seated morbidities which are the basic causes. Clinically, we often find that the leukemic, aplastic, agranulocytic, trophic and chemical lesions do not differ much in appearance, odor, extent or bacterial flora. Ten years ago, nearly every case of granulocytopenia was characterized, at the outset, as a Vincent's infection. We know now that these organisms are merely coincident, and that the prognosis of this disease generally runs true to form.

Of especial interest to the stomatologist, in connection with the common variety of ulcerative gingivitis, so frequently characterized as trench-mouth and usually treated along topical lines, should, according to my observations of this malady, be referred, in 90 percent of cases, to trauma. Despite the bleeding, characteristic fetor and sloughing, it will be found that roentgenology, rather than hemanalysis, will disclose the etiologic factors to be impactions, notably of lower third molars.

Medico-stomatologic teamwork will occasionally discover the cause of halitosis. Thus, aside from obvious oral lesions, differentiation of odors and fetors by the stomatologist, will often attract attention to disturbances of wide medical significance. Recognition of the sweetish acetone odor in diabetes; ammoniacal odor in uremia; garlicky odor in phosphorus poisoning; the oral fetor of mercurialism; and the unmistakable odor of sloughing and necrosis, may lead to the tracing of serious complaints. An obnoxious ozena, so detected, should merit, for the dentist, the deep gratitude of the unsuspecting patient.

An example of the opportunity of the stomatologist to initiate a good piece of collaborative service, wherein a liaison with the physician will be indicated, is in cases of leukoplakia buccalis. Its frequent syphilitic or malignant background being the rule rather than the exception, should warrant a routine medical inquiry.

144 Joralemon Street.

A LIVING FOR THE DOCTOR

The Desire to be Sick

By E. V. Ullmann, M.D., Portland, Ore.

IF THE physician looks back over a period of, let us say, 200 years, his heart is filled with joy and pride as he recognizes the abundance of new scientific medical discoveries and admires the progress which went beyond all expectations of even the last generation, embracing activities of the human mind which were not even dreamed of in the 6,000 years of recorded human history. The fear of murderous epidemics, as plague, cholera, typhoid and smallpox is banished; the mortality has nearly been halved; every member of the commonwealth has a better chance to live a longer and better life than his ancestors.

If we consider the relation between the physician and the wellbeing of a nation, it seems to be doubtful whether a large number of well trained physicians is followed, necessarily, by a high standard of the nation's health. This conclusion is correct in considering an individual case, but its validity as to a whole nation has greatly to be doubted.

A few hours spent in an office of a general practitioner will enlighten one as to the relation between the single physician and the wellbeing of a nation as a whole, by showing two things: First, that only the smaller number of the patients coming to the office suffers from a real organic disease which can be localized in an organ. The majority of patients have complaints which are of a more or less vague nature, leaving no clue as to their localization in an organ or system of organs, and often must be classified as functional diseases.

The second point which we can learn during these hours is that, in these functional cases, the relation between physician and patient seems to be largely influenced by the willingness of the patient to cooperate with the physician, by demonstrating a will to become cured, or by his taking a more negative attitude, with a will to remain sick and to aggravate his symptoms. Such a negative reaction of patients was observed by Plato ("The State," Book 3, Chapter 15), who called it *nosotrophia*—the desire to be sick. This phenomenon, however, was a rare one in times when the life of a weakling stood at a low value. But in times of abundance of material goods, a hypermature civilization is greatly favoring the breeding of disease.

In order to be a good physician, a real priest of the healing art, perfect independence and freedom of thought and action are indispensable. The physician must unconsciously feel that, in every case, his is the giving part between the two—in spite of the fee. This does not imply that only a well-to-do physician can be a true physician. We know of many instances of struggling and poor physicians who carried the royal crown of the free and independent man.

I, myself, because of some stomach trouble, once went to consult an outstanding specialist who was a member of a large clinic. I knew what was the matter with me before I went to him, but being human, I wanted to make sure that my diagnosis of being a neurasthenic was correct, feeling that nothing could be lost by consulting my famous colleague.

When I left the clinic I had submitted to all the so-called routine examinations of blood, sputum, urine and what not—and I did not know what to do. My tonsils were "moderately septic" (whatever may be understood by that term); I was found to have two dead teeth in my mouth and my gall-bladder was emptying somewhat slower than my specialist friend expected it to, according to the average time. He first advised me to have my teeth removed; then my tonsils; and if these operations did not decrease the amount of acidity in my stomach, he would see what could be done with my gall-bladder. I thought the matter over for a few days and then started to change my way of living: I reduced smoking, kept to a diet and went to bed earlier. Seven years have passed since then, and I have never had any more stomach trouble.

One easily overlooks two essential points: the enormous latitude of the normal and the multitude of perfectly harmless deviations from the normal. A prolapsed stomach, for instance, is no disease, but becomes one in the moment it is diagnosed and the patient is told that it is a possible contributing factor to ill feeling. How many patients were submitted to all kinds of suspension operations on the stomach during the years 1910 to 1925? It happened that this particular diagnosis was discredited almost as quickly as it came into style.

But what of the many diagnoses the patient is told of and thereafter suffers from, such as high blood pressure, enlarged heart, closed tuberculosis and many others? Do they in any way contribute to make him feel healthier, stronger or more resistant? On the contrary. They make him conscious of a weakness of his body, which is often followed by worries about the future—a weakness against which the physician is helpless to do anything. Particularly cases, in which such conditions are discovered at occasional examinations, become and remain sick from the very moment the condition is discovered. Before that they never felt ill or in any way incapacitated. But knowing that their blood pressure has been found at 160, at an age when the doctor knows that the average is only about 140, they feel ill and feel obliged to do something about it.

I well remember the time when it was easy to find one or two operations a week for floating kidneys, listed on the blackboards of the surgeries of nearly every large hospital. Since we recognized that a floating kidney is a very common and harmless deviation from the normal, we do not diagnose this trouble any more, nor do we advise the patient to submit to this operation.

The same is true with chronic appendicitis, chronic tonsillitis, retroverted or anteverted uterus and many other diagnoses, which, although correct in most instances, do not necessitate immediate action. But they all play a part in making the physician a contributing factor in making people feel sick.

Diseases such as those mentioned above have been confined, until lately, to the strata of the well-to-do, within which they have even been fostered to a certain degree. The menace of unnecessary operations, limited previously to this class only, has, however, been generalized more and more, embracing all the nation through legislation and private humanitarian institutions. The good of all these humanitarian efforts and activities seems to me today, if not cancelled, certainly reduced in value by their disadvantages. The experiences of the British panel system and the Central European *kassen* system has been studied in this country extensively, but it seems that the economic and financial factors have played a larger part in these studies than their real importance and the influence which such all-embracing insurance systems must necessarily have on the status of national health warrant.

At the present moment, in times of extreme distress, the dawn seems to break on the various governmental as well as private insurance institutions. In this country the physician becomes acquainted with these shortcomings of social insurance in his daily practice. I boldly make the statement that

every one of us, patient as well as physician, is not only tempted, but often actually compelled, to act crookedly.

A patient, insured in one of the many existing accident and health insurance companies, undergoes a tonsillectomy. (I will not here discuss the necessity for such a procedure.) The contract of the patient with the company calls for a period of at least two weeks of disabling sickness before a compensatory payment will be made. The patient, after a tonsillectomy, is actually incapacitated for no longer than eight or ten days, at most; but he feels that, having paid his premium for a number of years and having never made any use of the policy so far, he is entitled to get what he paid for. That he really did not pay for what he now is demanding is perfectly clear from reading his contract, but that does not enter his mind at all.

The physician, on the other hand, cares naturally, first of all, to keep the good will of his patient and is easily inclined to lend his ear to the plea of the patient to antedate the beginning of the disease so as to make the time of sickness long enough to force the payment by the company. Besides that, the physician hopes to collect his fee more easily if the patient collects compensation from the company. Such is the case with private insurance companies as we meet them every day in practice. The physician simply takes the stand that nobody may dare to doubt his word, because he emphasizes and prides himself upon his independence and freedom.

How long can a condition prevail, under which a once-great and free profession is daily degraded and humiliated by the force of economic circumstances? Much more aggravated becomes the desire for compensation if the second party of the insurance contract is the state or the federal government. To what ruinous lengths such a relationship between government and citizen can be carried, we have recently experienced in the fight of the President of the United States against the grafters among the war veterans.

Thinking of the old, malicious saying, that the art of internal medicine consists of making an acute disease into a chronic one, one may apply this thought with much more justification to all types of insurance medicine. In this connection it is interesting to note how often a change in attitude of the public towards diseases takes place. Yesterday there was a horror of disease, which was looked upon as a tragedy, sometimes even as a disgrace: Yesterday the supreme wish of the sick man was to become able to work again as soon as possible. Today we often meet with the contrary condition. Sometimes one is moved to exclaim, "Being sick has become a profession. People are learning how to complain without suffering."

All social insurances are well meant and are probably planned with the main thought directed in a humanitarian direction. They really could brag about the effects on public health, if men would all be as the idealist likes to see them—made out of unselfishness, honesty, love for the neighbor, love for truth and joy in work. But as long as man continues as he is, there remains little hope for a change in his desire to acquire individual advantages at the expense of the common good.

The newest and most actively advertised method of breeding diseases on a large scale is the transmission of garbled and half-baked medical information to the masses, by those who have axes to grind. Incomplete or ill-considered information quite often interferes with the confidence so indispensably necessary in the relation between the patient and physician. This fact is well known by quack doctors, who cleverly capitalize it.

Within recent years we have to contend with one of the latest discoveries, as a distributor of misleading advice in matters of health. Between frankly commercial announcements and Negro spirituals, we have to listen to a "professor," telling the world about the symptoms of high blood pressure or gas-

tric acidity, with the advice to buy some advertised drug or nostrum, and thus breeding hypochondria in unstable persons.

But what really can be charged against the physician is that, while we claim to be the educators of the nation in matters of health, we neither raise our warning voice nor take any reasonable action against conditions which possibly cannot find a happy solution by themselves.

The medical profession has made tremendous and innumerable sacrifices during the evolution of social legislation and at last seems to have lost its freedom and independence, without which a beneficial influence upon the nation's health can hardly be expected. At no time in history has the reputation of the medical profession stood so low in the eyes of the public as today. We have lost our priesthood and become proletarians because we allowed our work to be dictated by the masses.

Physicians do not ask for privileges in respect to property, health and life, but we must demand and preserve our independence and freedom of action, if we are to live up to our ideals as healers, helpers and educators.

324 Medical Arts Bldg.

NOTES AND ABSTRACTS

We Can't Go Back*

ALL over America, people not yet reconciled to the inevitable are saying in their hearts: "Why must we have a new era? Why can't we go back to the normal times we had before the depression?"

Because those times were not normal.

When European nations borrowed billions of dollars from America, they spent nearly all of it for American goods. And their urgent demand made prices high.

When our people were paid for their goods and their labor, they merely got back their own money—their savings. But they didn't realize this, and they spent the money freely and felt rich.

Then another melon was cut. While Europe's men were fighting, America captured the markets of the world. When war was over, bankrupt Europe needed vast quantities of goods and asked for credit.

America built up a great foreign trade by selling on time and by lending customers the money to pay for their purchases.

Again our people were merely receiving back their own money, but again they failed

to realize what they were doing and felt rich because they had so much to spend.

The third melon was home-grown. Because times were "good" and bonds easy to sell, every State and county and town and school district bonded itself to build improvements. Rich people bought the bonds; money flowed in; and nobody cared about the price of material, for the money was easy to get.

This time the people were spending their future earnings, but they didn't realize it.

When the bubble burst, America had spent her savings and mortgaged her future; and the tremendous and inescapable burden of taxation necessary to pay interest and retire the bonds will bend the backs of generations yet unborn.

That's the reason we can't go back to the "normal" times of 1929.

But why can't we go back to the truly normal times of pre-war days?

Because of machinery and the "quantity production" it makes possible.

At the height of the boom there were three million jobless men. If the depression should end tomorrow, millions of the ten million now jobless would be idle still. And their number would grow every year.

*Reprinted from *Fountain Inn Tribune*.

The solution may be found in shorter hours, shorter weeks and limited production—on the farm as elsewhere.

But the old times can't return; and good times will not come until the solution is found.

ROBT. QUILLEN.

Fountain Inn, S. C.

Read the Ads. Ask for literature and samples. Mention "C. M. & S."

The Profession of Medicine Versus the Practice of Medicine

IN *Illinois M. J.*, Sept. 1932, Dr. L. O. Frech, of Decatur, Ill., discusses the aspects of the profession of medicine as distinct from the practice of medicine.

The profession of medicine has as its motives: (1) medical protection for the public; and (2) the protection of its own welfare. It acts as a group; its designs are broad, far-reaching and liberal.

The practice of medicine has as its goal two objectives: (1) to render medical assistance to the individual; (2) to reward the physician financially. The practice of medicine is individual and narrow; its scope is economic, as regards the individual physician, more than scientific; he is concerned with the profession only as a means of furthering his own interests, to the point of reaping an ample reward.

Our medical schools are largely to blame for the physician's centralized interest in the practice of medicine because, in their teaching, they deal only with the acquisition of medical knowledge and the dispensing of medical service. They place in the physician's grasp only such material as is useful to his patient, and leave him unguarded in his struggle for self-maintenance. He is well equipped for carrying on the practice of scientific medicine, but he is left defenseless against those hazards which threaten the safety of medical practice.

Medical schools certainly are neglecting their duty and are falling far short of the purpose of their existence when they train students for a service which benefits only the served, and leaves the server without justifiable reward. Any training which but partially qualifies the student for meeting the full responsibility of his vocation is shortsighted and without justification. Medicine cannot hope to meet its standards of qualification until medical schools effect their reorganization to include both economic and social medicine.

Hospital Economics

TWO conclusions that I formed from my forty years of observation and experience are that the pay-rolls in hospitals are too large; and that the meals should be served a la carte, instead of the regular trays of food, at any rate for the first week following major operations; also in cases like typhoid fever, in which the diet is restricted almost entirely to liquids.

When a patient enters a hospital and is assigned to a room, he pays for the food, whether he gets it or not. The a la carte service would reduce the patient's expenses and would require less help in the kitchen and serving room. As to medical fees, of course each physician will make such reductions as he sees fit, in the cases needing it.

The rich can, of course, afford to have de luxe rooms in the hospital and as many nurses as are needed; the poor can have the same medical treatment as the rich, minus the de luxe rooms and private nurses; but the middle class is the one that seems to engage our attention, and the apparent way to solve this problem is to have private wards, with two or three patients in a ward, or private rooms at a moderate price.

The following questions should be truly answered, as regards the poor, the middle-class and the rich:

Was the diagnosis justified?

Were all laboratory aids to diagnosis employed?

Was the treatment the most improved?

(If surgical) Was all necessary surgery done?

Was more than necessary surgery done?

These questions are asked at the clinico pathologic conferences held in the hospital with which I am connected, and should be frankly discussed in all hospitals.

R. C. FALCONER, M.D.

French Lick, Ind.

I subscribe to so many medical magazines that during these hard times it is quite a burden to carry them all; however, I feel I could not afford to be without such a practical help as your magazine has proven to be.
—F. C. B., Jr., M.D., Pa.

Look for FACTS AND COMMENTS among the advertising pages at the back.

I cannot afford to be without **CLINICAL MEDICINE AND SURGERY**.—J. E. M., M.D., Iowa.

THE SEMINAR

(NOTE: Our readers are cordially invited to submit fully worked up problems to the Seminar and to take part in the discussion of any or all problems submitted.)

Discussions should reach this office not later than the 1st of the month following the appearance of the problem.

Address all communications intended for this department to The Seminar, care CLINICAL MEDICINE AND SURGERY, Waukegan, Ill.)

Problem No. 2 (Urologic)

Submitted by Dr. Winfield S. Pugh,
New York City

(See CLIN. MED. & SURG., Feb., 1934, p. 93)

RECAPITULATION: Dr. Rolnick has summed up the essential features of the case so well in his discussion that further recapitulation is unnecessary.

Discussion by Dr. Harry C. Rolnick,
Chicago, Illinois

IN THE history of this case the salient features are: Persistent, recurrent, right lower abdominal pain of three years' duration, with loss of weight, in a man of 56. There is also a later development of urinary frequency, urgency, urethral discharge and attacks of priapism. Abdominal examination has been negative, and operation for appendectomy gave no relief; neither did a ureterotomy. The definite findings are those on rectal examination, which reveals a mass extending above the prostate on the right side; also evidences on cystogram of involvement on the right side in the bladder region.

The probable diagnosis is a retroperitoneal or pelvic tumor, which has invaded the right seminal vesicle; this latter accounting for the urinary findings and the priapism.

Advise exploratory operation.

Discussion by Dr. E. C. Junger, Soldier, Ia.

IT WOULD appear that the "strain," mentioned in the personal history, was probably venereal and may have some bearing on the present condition.

Because of the constant, vague pain in the lower part of the abdomen, I should suspect irritation of the lower part of the ureter, caused by chronic inflammation of the right seminal vesicle, the result of a mixed infection. The thickened bladder wall is probably due to the same infection, and the prostate may also have suffered to some extent.

Treatment: Heat, in any and all forms, should be applied to the affected parts. If this gives no relief, the infected structures should be drained or removed by surgical excision or by fulguration.

Discussion By Dr. Emmet Keating, Chicago

I WISH to call attention to two apparently conflicting statements in this problem.

Under "Physical Examination" it is stated that internes and neurologists find nothing to account for the urinary symptoms or priapism. Then, under the heading of "Urologic Examination," it is stated that a sensitive and fibrous mass was felt above and to the right of the prostate. Palpation of this area seemed to produce a urethral discharge of pus.

If this were my patient, I would have a highly competent and experienced general surgeon do an exploratory operation, and I believe the existing pathologic condition could be demonstrated and properly treated.

Solution by Dr. Pugh

UPON completion of our examinations in this case, we arrived at the diagnosis of tumor in the right seminal vesicle, and recommended surgical intervention.

The family insisted that Mr. A. was in poor condition and would not consent to any form of operation, so he was taken home.

Two months later he was returned to the hospital, a mere shadow of his former self, but it was too late. He died on the second day following admission, with a hemiplegia.

Autopsy revealed a carcinoma of right seminal vesicle, with cerebral metastasis.

Problem No. 4 (Medical)

Submitted by Dr. James H. Hutton, Chicago

MRS. B., age 23, referred by Dr. George J. Musgrave, complained that she was weak and tired all the time. She had frequent headaches, which were particularly severe during any acute illness. She was extremely sensitive to cold.

Past History: Six years ago she was suspected of having "thyroid" trouble; evidently a positive diagnosis was not made. During this illness she lost weight, down to 85 pounds; then suddenly began gaining, so that her weight increased to 150 pounds. During that time she had a great deal of headache.

(Continued on page 195)

CLINICAL NOTES and ABSTRACTS

The Life of The Atom

IF WE accept the theory of the origin of matter, then we are compelled to acknowledge the fact that there comes a time of death of that matter. The atom with its contents, as far as we are able to determine, is the first step out of what we call nothing; it being so vague that, with our crude methods, we are unable to weigh, measure or determine it. This leaves a great loophole, so far as the real cause of the atom is concerned.

Recognizing the constant movement of the contents of the atom, we measure its force. This force must have preceded the building of the atom or it could not possibly have developed. The atom was a necessary consequence, through which the force could express itself.

The extension of the life of the atom is probably dependent upon the various contacts with which it becomes associated in building the universe.

It appears that all material passes through a period of birth, development and ripening. This cycle completed, the atoms will have again returned to their original state of dissipated and released particles and will revert back to the unknown power from which they came.

All material is constantly in process of building and decay, continually working itself back to the mysterious nothing. As an illustration, we may take radium. The atomic radiations are the fastest in this element, persistently shooting away into space, and possibly breaking up and releasing their power to the general fund. Uranium, a metal, does the same thing, and so do many others. In fact, all matter is moving through the three phases, in compliance with the great natural law.

A great many of the elements return their atoms to their original source, making this one step in the development of the material world. Other atoms are separated from the mineral and metal of the earth, and make the second step into the vegetable growth. This is the expression of the atom in vital form. The youthful atom in its second stage of development is organized and associated with forces from different sources. Many of these atoms never go any farther, but are returned to the general fund through the regular method of decay and disintegration.

When vegetation is eaten by animals, the

atoms are taking their third, and possibly last step in the cycle of atomic existence. These atoms enter into the development of flesh and become old atoms, hurrying back to the first cause. The flesh is, so far as we now know, the last and highest use to which the atoms may rise. It is the last step in the cycle of birth, development and ripening. There is no other place to which it can go but to return to its first general fund, so that the force may be used in the creation of other atoms. In the mineral and metals we do not see much growth or forward development. All action is destruction and disintegration. A piece of metal, such as iron, when left in the open air, begins to rust and melt away. All other metals act the same in varying degrees.

We have no reliable data upon the metabolism or destructive action of the atoms within the growing vegetable. The lack of deterioration while developing, would seem to indicate that the atom is at the peak of activity in its existence. Virile, strong and productive in the highest degree, this youthful, vigorous atom, within the vegetable, is the builder of all flesh, and probably answers the question as to why the first life on earth was the vegetable cell. It was the necessary substance with which flesh could be produced.

From animals eating the vegetable, we find the atom in its third step into the production of flesh. In the flesh we find them breaking down very fast. The metabolism or degenerative action causes one-half of all flesh to be in a state of decay at all times and allows one-half to live. But, as the living half is constantly disintegrating, it is necessary to add new atoms to the blood-stream by the use of food; that is, by consuming the young atoms from the vegetable, or old atoms from flesh which is already one-half in the stage of disintegration.

Herbivorous animals are of longer life than carnivorous animals. Most carnivorous animals eat only the meat of herbivorous animals. Human beings are eaters of the greatest variety of foods of any life on earth and suffer more from bodily ailments.

The proper selection of the needed combination of the atoms during the vigorous period of growth appears to be the logical builder of perfect flesh. It may be that the ingestion of old atoms accounts for the short life of the human family. We might prolong

life if the flesh were composed of youthful atoms which would possess greater resistance toward the degenerative processes. It is possible that a body built of this type of atoms would be practically free from disease and kept living for a longer period of time.

CHARLES E. MOOERS, M.D.

Seattle, Wash.

Amidopyrine in Diabetes Insipidus*

AMIDOPYRINE is of specific value in diabetes insipidus, as has been reported by Scherf and Kahn. To give definite relief, it must be used regularly, with hypodermic injections of surgical pituitrin.

Our patient, a white male, age 30, was first treated with pituitrin alone, an injection of 1.0 cc. being required at least once a day. In an attempt to relieve him of these daily injections, we placed him on amidopyrine, 1.0 Gm. each night before retiring. It entirely relieved his symptoms and he continued symptom-free for six days. The effect of the drug then began to disappear and subsequent administrations failed to produce any effect until he took another injection of pituitrin. The amidopyrine then regained its effect, which lasted for another six days, if 1.0 Gm. was taken each night. By continuing this cycle of amidopyrine daily and pituitrin every six days he has remained symptom-free. He has regained the weight which he had formerly lost and feels as well as ever.

Kahn's case was similar, and was reported in the *J.A.M.A.*, May 20, 1933.

DRS. J. M. CULLIGAN AND
H. P. PRENDERGAST.

St. Paul, Minn.

Antiserum for the Treatment of Tularemia†

BELEAVE that many deaths can be prevented; also that most of the prolonged distress caused by tularemia can be shortened. Sixty-nine (69) patients have received a serum made by inoculating goats subcutaneously with formaldehyde-killed suspensions of *Pasteurella tularensis*, mainly virulent strains. This antitularensis goat serum has been shown to have a favorable therapeutic effect on tularemia in man; the main duration of disease in the entire group treated with it has been reduced to about one-half that of a control series. The duration of adenopathy and the period of disability have been appreciably and significantly shortened; the mean febrile period was not shortened; the incidence of serum sickness was somewhat high,

for the small amounts of serum used, but only four occurrences could be called severe and none was serious.

The dosage for infections of average severity should be two intravenous injections of 15 cc. of the antiserum each, on successive days. When the lymph glands are already larger than 5 cm. in diameter, three such doses would be better if glandular suppuration is to be prevented. Patients with the typhoidal type should also be given serum in much larger amounts.

The general use of the intradermal test (provoked by injection of the standardized detoxified suspension), in conjunction with the antiserum, could make early diagnosis possible.

LEE FOSHAY, M.D.

Cincinnati, O.

Look for **FACTS AND COMMENTS** among the advertising pages at the back.

Endocrine Factors Related to Genital Development*

DURING the past decade the functions of the endocrine glands have been shown to be definitely associated with the functions of the non-endocrine organs through the action of their hormones. The harmonic action of distantly seated endocrine glands upon the genital system pertains particularly to the practice of urology and gynecology.

The endocrine relationships of the gonads have opened up a tremendous field, both with regard to the growth and function of the genitive organs and their accessories. It has demonstrated positive endogenous causation for many of their malformations and abnormal activities, heretofore considered hopeless and incurable. Better understanding of this will permit preventive treatment of many of these abnormalities during the adolescent age.

The general scheme of interrelationship of these glands, as presented by the effect of the hormones of one upon the other, is divided into two harmonic phases. The first phase is that of the action of the hormones of the thyroid, pituitary, suprarenal cortex and the placenta (in the female) upon the follicle of the ovary, and the spermatid capsules of Sertoli of the testicle. The harmonic action of these endocrine glands induces cytologic and functional changes in the follicle and the spermatid capsule which, in turn, results in a liberation of hormones from these structures of the ovary and the testicle. The second phase is that resulting from the hormones of the ovary and the testicle upon their accessory structures, such as the uterus and its

**Minn. Med.*, Oct., 1933.

†*J.A.M.A.*, Nov. 4, 1933.

**Am. J. Surg.*, 19:72, Jan., 1933.

endometrium, tubes, and vagina (in the female), and seminal vesicles, prostate and external genitalia in the male.

The hypophysis is the most important endocrine gland in the body and is the center of hormonal action. A deficiency of its growth hormone results in a retardation of the statural characteristics and all the organs of the body, including those of the genitive system.

It has been definitely proved that endocrine glands forming hormones produce the first phase of an intermediate action through the gonads upon the accessory genital organs. Removal of the ovaries and testicles, which abolishes the action of the gonadal hormones, prevents both the growth and function of the accessory gonadal organs.

Successful therapeutic action from potent hormones given for gonadal disorders depends on whether the disorders are of the first or second hormonal phase, and on the proper timing of the actions of the interrelated hormones in the cycle of activity of the hypophysis, gonads and accessory genital organs. Diagnosis depends on a thorough knowledge of the two hormonal phases and their complex effects in normality and disorder. Not all of these matters have been solved for practical application.

WM. ENGELBACH, M.D.

New York City.

Error Re Coramine

IN the March, 1934, CLIN. MED. & SURG., an error was made on page 145, in an abstract regarding the power of Coramine to hasten the recovery of patients on whom Avertin had been used. The figures at the top of the second column on that page were wrong (in the cases where Coramine was used) to the extent of a whole hour. The patients in whom this drug was not employed required 1 hour and 25 minutes to recover from Avertin narcosis; where it was used, recovery took place in 48 minutes—a gain of 37 minutes, or 48 percent.—Ed.

When the Cause of Heart Disease Is Obscure*

THE causes of heart disease are rheumatism, syphilis, focal infections, trauma and congenital defects, yet a careful history, physical examination and laboratory examination do not reveal the primary cause, in many patients. Such measures may only reveal the disease. Without knowing the primary cause, we can not institute effective treatment.

I recall a patient, aged 50, who was shown to have a toxic goiter, chronic endocarditis,

chronic myocarditis, auricular fibrillation, parenchymatous nephritis, chronic tonsillitis, chronic otitis media, chronic gingivitis, and varicocele. He had a leukocyte count of 13,400 and a basal metabolic rate of plus sixty, yet the primary cause of the heart condition was a matter of conjecture. Before coming to me, he was given large doses of digitalis, with no arrest of the fibrillation and no improvement. Nor were rest in bed and symptomatic treatment, instituted by me, of any avail.

To strengthen our efforts to discover primary causes in such cases, I wish to suggest three things: (1) The periodic physical examination of people from birth until death; (2) Autopsy; (3) Careful study and comparison of the histories, physical findings and laboratory reports of patients in whom the cause is definitely established with the histories and records of patients in whom the cause is obscure, so that bases can be established for making diagnoses in obscure cases.

EMMET KEATING, M.D.

Chicago.

Medical Treatment of Exophthalmic and Toxic Goiter*

EXOPHTHALMIC and toxic goiter are both forms of severe hyperthyroidism, the basis of the latter being apparently an altered metabolism.

The altered metabolism of hyperthyroidism gives the following indications for treatment: The abnormal muscular metabolism observed in goiter cases demands as complete rest as possible, and an increase of iodine intake; excess of adrenalin requires sedatives and freedom from emotion and excitement; since deficiency of vitamins induces thyroid hyperplasia, an excess of vitamins appears to be indicated; as carbohydrate excess diminishes thyroid activity, the diet should be rich in carbohydrate; the excessive glycogenolysis should be combated by any means in our power, otherwise depression of endogenous insulin, and failure to utilize glucose, will continue.

Rest, excess vitamins, depression of thyroid activity and a diet consisting of fruits, vegetables, sugars and starches, are the main stages of treatment. For medication, I wish to stress the value of sodium fluoride, in addition to iodine. The average effective dose is about 1½ grains (0.1 gm.), which is considerably less than the toxic dose.

Fifty-three (53) cases have been treated along these lines; all patients have slowly recovered, except two who could not be followed; 16 of these patients who received fluoride recovered more quickly, and those

*Illinois M. J., February, 1933.

*Practitioner (Lond.), Aug., 1932.

who received iodine in addition to fluoride responded still more rapidly. The treatment may have to be continued in individual cases for as long as a year, the patient generally being allowed to get up after six weeks.

In giving sodium fluoride two solutions are advised:

1.—Two-percent aqueous solution	
of sodium fluoride	30.00
Lugol's iodine sol.	10.00
Water, q.s. to make	60.00
2.—Chlorodyne	5.00
Tinct. of Catechu	15.00
Simple Syrup	20.00
Water, q.s. to make	60.00

These two are mixed in equal parts and taken after meals, thrice daily, the total not being increased beyond 1½ drams (6 cc.).

No case treated on the above lines has failed to improve, though many were told by consultants that operative treatment was imperative to save life.

DR. A. T. TODD.

Sodium Thiosulphate in Migraine*

THERE are many drugs which, given regularly for months or years, have done well in a small proportion of cases of migraine and failed in a larger proportion. In the past two years I have been surprised by comparatively good results from intravenous injections of 1 Gm. doses of sodium thiosulphate (hyposulphite). I am not sufficiently familiar with the pharmacology of hyposulphites to offer an explanation for this favorable action. One investigator injected sodium thiosulphate into horses and found the serum from these horses was less likely to cause anaphylactic reactions in guinea pigs. He found that phagocytosis was increased 100 percent, and believes that this drug increases the production of the (hypothetic) reticuloendothelial hormone "reticulol."*

PETER BASSOE, M.D.

Chicago, Ill.

The Declining Birthrate

IN THE absence of accurate and reliable statistics covering variations in the birthrates of different countries in the past centuries, it is impossible to conclude whether or not there has been a progressive and alarming decline in the birthrate of the white race, or whether the present decline in most European countries and in the United States is but

a temporary matter to be followed by an arrest in the fall and then a rise in the rate.

Be this as it may, the fact remains that in France, Germany, England and the United States the ratio between the birth and death rates is decreasing and that the number of deaths annually will shortly begin to exceed the number of births in some of these countries. In England especially is the crucial moment near at hand when the decline in population will begin, unless some unforeseen event will occur to prevent.

One of the British statisticians, A. M. Carr-Saunders, recently announced before the Royal Sanitary Institute, that in 1940, six years hence, the English population will remain stationary and then begin to decline. He pointed out that since the close of the eleventh century, as shown by the Domesday survey at that time, there was a steady annual increase in the population of England, with but slight interruptions at various times, but that this annual increase has been slowly dwindling. Catastrophes like the "black death" of the fifteenth century and the recent World War have caused temporary arrests in this growth. Since the Great War, however, there has been a steady decline in the annual rate. Carr-Saunders calls attention to the fact that "the number of children born within the past five years, who in twenty years should form the 20 to 25 years age group, does not equal the number now in that group." This moreover, does not take into consideration the inevitable loss in that group by death during the next twenty years; neither does it recognize the possible loss by emigration to other countries.

As is usual in such emergencies, the general population of England has not awakened to the national menace. The same is true here in this country. There is a steady decline in our birthrate, and before a half-century has passed the dead-line will be reached. Yet our people are totally unconcerned.

Laying aside the moral aspect of the question, we can have no stronger argument against "birth control" or contraception than these facts. If there is to be an inevitable loss in the birthrate from natural and unavoidable causes, why hasten the operation and deplorable result by artificial methods? Then, too, contraception, which was devised in the interests of eugenics, unfortunately does not work out as it should. The better element of the population, which it is most desirable should be preserved in the interests, not only of eugenics, but of national welfare as well, is practising "birth control," while the riff-raff, the most undesirable element of the people against whom "birth control" has been directed, continue to propagate at will. This can mean but one thing—elimination ultimately of the better element, the intelligent

*J.A.M.A., Aug. 19, 1933.

sia if you will, and preservation of the cruder populational factors.

Perhaps it may be well that this is so. Perhaps the injection of new blood from the baser elements may be nature's method of improving the race. To most of us, however, this does not appear to be desirable; but who can say what is best for the race as a whole? Our vision is limited, our judgment warped.

Inevitably the question arises, does the declining birthrate mean the final extinction of the Caucasian race and of our much vaunted civilization? Does it mean the passing of the white people, even as the Cro-Magnan, the Sumerian, the Hittite and the Phoenician civilizations flourished and then died for some unknown reason? These people had civilizations which, in some respects at least, exceeded ours in work achieved. What do we know of malleable glass, of mummification of the body, of the building of immense pyramids composed of gigantic stones we would not or could not think of moving today?

They passed, notwithstanding their great power and achievements; and we, too, may be passing to make way for an Asiatic civilization that may be better able to cope with the present-day needs, and may or may not be superior in some respects to ours. At any rate, the birthrate in these Oriental countries is not declining, and ours is.

W. A. NEWMAN DORLAND, M.D.

Chicago, Ill.

Population and Progress

IT IS part of our editorial policy to present to our readers both sides of controversial questions bearing directly upon the thought and work of the medical profession, so we are glad to give space to Doctor Dorland's earnest statement of his point of view. But we do not feel that we should refrain from calling attention to what we believe to be the weak spots in his argument.

The Doctor seems to fear a deficiency in "cannon fodder," because on no other basis is an increase in the population of the great industrial nations necessary or desirable, under the present circumstances. Statisticians assure us that, with modern methods of mass production by machinery, there is no hope that the willing workers will ever be fully employed, unless there is a complete change in our social order. Why, then, needlessly add to the ranks of those who will necessarily be unemployed?

He does well to "lay aside the moral aspect of the question," for birth control is no more a matter of morals than is the employment of domesticated animals in the service of humanity, or any of the other great "biologic inventions." It lies in the domain of hygiene,

economics and sociology and should be judged by the reason, rather than by the emotions.

The frequently-advanced argument that birth control, *as now practiced*, limits, the most desirable element of the population, is one of the strongest points in favor of the program of those who seek the repeal of our archaic and barbarous laws on the subject.

During the days of Volstead, the well-to-do were never seriously hampered in their bibulous activities. It was only the poor who were denied their glass of beer, because they could not afford it. In like manner, ever since reliable methods of contraception have been developed (and even before that) the more civilized and solvent families have found means to limit their offspring; while the less-well-circumstanced members of the community, unable to pay for the "bootlegged" information or abortions, have been forced to go on procreating, in the face of physical, economic and social disaster, which they frequently foresaw and feared, but were unable to escape.

When, and only when, contraceptive information is as freely and generally available as is any other branch of hygienic and therapeutic advice, will the "lower classes" have an opportunity to avail themselves of it. The records of the birth control clinics now in operation show how eager these people are for such knowledge, even in the face of racial and religious prejudices.

Birth control is not new. It has been practiced, by the "initiated," almost as far back as our historical records extend. It appears to be a definite part of the cosmic progress of the race and its increasing use may well be a sign of the times. We cannot stop it, and it would therefore seem the part of wisdom to take steps to place the dissemination of this important information where it properly belongs—in the hands of medical men, where it might well add to their prestige and prosperity.

When this knowledge is universally possessed, there seems sound reason to believe that the Caucasian races will be in a position to breed for quality, rather than quantity; and there appears little reason to fear that this change of basis will endanger their world predominance—at least, until the Asiatic races, about which Doctor Dorland is disturbed, become more civilized and intelligent than we are. That time may well come, in the future, as it has come to other splendid civilizations—but it will not come wholly, or even chiefly, because of birth control.

One point the Doctor has overlooked altogether, though it is by no means negligible. The number of abortions and the deaths from this cause, in our "civilized countries," is appalling. General instruction in the methods and technics of contraception would eliminate

the necessity or advisability of abortion in 99 percent or more of the cases where it is now practiced.

G. B. L.

Internal Medication in Cataract*

EXPERIENCE has shown that certain internal medications have power to arrest the progress of senile cataract, and sometimes to improve the condition. The remedies used are:

Whole thyroid, including parathyroid, 5 grains (325 mg.) once a day.

Nitroglycerin (fresh tablet triturates), 1/200 to 1/50 grain (0.32 to 1.3 mg.) three times a day, the dose being adjusted to the case.

Potassium iodide, in saturated solution, five drops after meals.

Cod-liver oil or other sources of vitamins A and D, administered for its general resistance-raising effect and also for the effect of vitamin A in clearing the cornea, conjunctiva and lid margins.

Laxatives, as required to maintain normal elimination.

Twenty (20) cases were treated by these methods, with the following results: Five (5) were discharged with normal vision in both eyes; 4 with vision of 20/30 in the better eye; 1 did not respond. The remaining 10 cases were more or less improved, to a degree proportional to the improvement in general health.

DRS. F. E. BATEMAN AND T. H. EAMES.
Boston, Mass.

Read the Ads. Ask for literature and samples. Mention "C. M. & S."

Nine Commandments for the Deaf†

1.—Thou shalt frankly confess thy deafness to thyself and before thy fellow men. Let there be no deceit nor false pride.

2.—Thou shalt not covet thy neighbor's hearing but shalt rejoice that thou livest in an age when thy handicap can be made so small.

3.—Early and again shalt thou consult thy otologist and accept every scientific aid he can render.

4.—Eschew the quack and his devices. Easy and broad is the way to his door and many there be that find it.

5.—Thou shalt join and work for a League for the Hard of Hearing where thou wilt receive encouragement and stimulation for

thyself and wilt find happiness in serving thy brother. Thus wilt thou march forward with the Federation army that is alleviating deafness throughout the world.

6.—So love thy neighbor that thou doest everything in thy power to help him when he would have speech with thee. To this end:

7.—Thou shalt study lip-reading, in season and out of season.

8.—Thou shalt secure and use the best ear-phone thou canst discover.

9.—Triumphantly shalt thou rise above thine infirmity; and so conduct thy life that the world hath need of thee.

GORDON BERRY, M.D.

Worcester, Mass.

Carbon Dioxide as a Preventive of Postoperative Pulmonary Complications*

POSTOPERATIVE pulmonary complications occur chiefly after laparotomy and herniorrhaphy, and twice as frequently in men as in women. Statistically, the type of general anesthesia bears no relation to the development of complications. The abdominal operation, itself, is the one practically constant factor in the development of pulmonary complications. These operations produce marked reduction in vital capacity, respiration becoming more rapid and shallow with decrease in total lung volume. Beecher has shown that after abdominal operation the lung assumes the position of normal expiration ("hypo-ventilation"), which apparently allows the collection of secretion in the bronchi, thus predisposing to atelectasis or pneumonia. The complication almost invariably develops in the first three postoperative days and is usually accompanied by fever, leukocytosis, cough and purulent sputum, and has been variously diagnosed as broncho-pneumonia, "pneumonitis," and collapse (or atelectasis). Of the various preventive methods resorted to, Henderson's recommendation of hyper-ventilation by the inhalation of carbon dioxide after anesthesia and operation has been employed extensively.

Owing to both satisfactory and unsatisfactory opinions regarding the preventive value of carbon dioxide having been published or otherwise made available, I have investigated the matter in the Massachusetts General Hospital (Boston). Over a period of one year, studies were carried on in 1,315 cases of laparotomy or hernia repair, 648 of which were treated with carbon dioxide and 667 of which were not so treated. For comparison, four methods of administering the carbon dioxide were resorted to. The first was the use of a

**Eye, Ear, Nose and Throat Monthly*, Dec., 1933.

†*J.A.M.A.*, Nov. 18, 1933, p. 1602.

**J.A.M.A.*, Jan. 7, 1933.

rebreathing tube with a mouth-piece and nose clip, by which the patient rebreathed his own carbon dioxide. The second method was the use of small tanks of either pure carbon dioxide or carbon dioxide and oxygen mixture of from 5 to 25 percent carbon dioxide, given by means of a funnel held near the patient's nose. The third method was the original Henderson inhalator, in which carbon dioxide is mixed with room air, rather than with pure oxygen. The fourth method was the use of separate tanks of oxygen and carbon dioxide, with a Foregger flow-meter on each tank, so that the mixture could be regulated to meet individual requirements. The inhalations by all methods were given from three to twelve times each twenty-four hours during the first three postoperative days.

During the last eight months of the one-year study, a change was made in the postoperative care of the untreated cases: they were given change of position every one or two hours, to provide adequate bronchial drainage.

General results show that during the first four months of the one-year study there were fewer complications in the treated group (12.1%) than in the untreated group (21.3%). The first method only of giving the carbon dioxide was used during this period on a total of 206 cases. The untreated cases totaled 211. Then frequent change of position in the untreated cases to permit bronchial drainage was instituted. During the last eight months of the study there were complications in 36.3% of the treated cases and in 27.4% of the untreated cases. The treated cases totaled 442; the untreated cases 456. The Henderson inhalator was used to give the carbon dioxide in 209 cases. The first method was used in 194 cases, the second method in 39 cases and the fourth method in eight cases. No method of treatment, either postural change or carbon dioxide inhalation, materially affected the percentage of complications in the so-called "bad-risk" group, composed of males with operations on the stomach, gall-bladder and intestine.

My conclusion is that carbon dioxide is effective in preventing postoperative pulmonary complications only so far as it encourages coughing and expectorating secretion. I consider frequent change of position fully as effective. As a result of this study, the routine use of carbon dioxide has been discontinued in the Massachusetts General Hospital. While search for a more effective method is being carried on, the only routine postoperative preventive measure resorted to is frequent change of position to promote bronchial drainage.

DONALD S. KING, M.D.

Boston, Mass.

Local Anesthesia in Labor*

WITH the following technic I have been able to conduct labor practically painlessly and with the cooperation of a quiet and calm patient, which certainly is not possible if all relief of pain is expected to be accomplished by the use of a general anesthetic. I do not advocate this technic for all operative procedures in obstetrics. For forceps delivery, after infiltration of the perineum, I have found that less ether is needed than when the infiltration is omitted.

In the stage of labor when the contractions are becoming painful, one capsule of amylal compound is given by mouth and is repeated in one hour, if the pains are still very severe. When the child's head begins to make pressure on the perineum, about 20 cc. of 1-percent procaine is injected into the perineum. The first injection is made into the perineal body and about 5 cc. are used, the needle being long enough to go past the skin and fat, so that the solution is placed in the muscles. From this point the bulbo-cavernosus muscles are injected, care being taken not to injure Bartholin's glands and adjacent veins. A few cc. are also injected posteriorly, to either side of the perineal body, in order to catch the fibers of the superficial transverse perineum and levator ani muscles. If episiotomy is to be done, the skin of the corresponding area is infiltrated.

H. D. TRIPP, M.D.

Kewanna, Ind.

The advertising pages are part of what you pay for. Use them!

Anesthetic Deaths and Their Prevention†

FROM published fairly representative statistics it is seen that the death rate from anesthesia probably lies between $\frac{1}{2}$ and 2 per 1,000 cases—for all classes of risks and different anesthetic agents. Ether, especially in untrained hands, is regarded as the safest anesthetic for patients normal or nearly so. In experienced hands, the gaseous anesthetics are probably the safest for all classes of patients.

Every anesthetic involves a certain risk and should never be lightly administered. It is so easy in routine practice to become careless. As we consider the marvelous complexity of the human body we realize how little we really know of its intricate physical and chemical reactions; people die suddenly in their beds and in the street; so the won-

**J. Indiana S. M. A.*, Nov. 1, 1933.

†*Anesth. and Analg.*, May-June, 1933.

der is not that some die under anesthesia and surgery, but that more do not do so.

To keep the number of deaths from anesthesia at the absolute minimum is the responsibility borne by the anesthetist. To meet this, he must know intimately the signs and symptoms of anesthesia, the mode of action of the anesthetic drugs he employs and the mechanics of any apparatus used. He must know the evaluation of the patient's risk, select the anesthetic agent best suited for the case, maintain proper level of anesthesia at all times and be prepared for any and all emergencies that may occur during the anesthesia.

F. W. CLEMENT, M.B.

Toledo, O.

Dangers of Intraperitoneal Injections*

ALTHOUGH the intraperitoneal route permits rapid introduction into the body of large quantities of blood or other fluid, the following dangers attend the procedure: (1) Perforation of the intestine; (2) the introduction of incompatible blood into the circulation; (3) hemorrhage from injury of the "obliterated" hypogastric artery.

The following five accidents occurred in the limited experience of one man in hospital and private practice during a course of nine years, although the usual precautions of technic were observed.

Case 1: Infant, aged six weeks; was given intraperitoneal injections of saline solution almost daily for two weeks, after which it died, following abdominal distention several days previously. Autopsy revealed two perforations in the jejunum, and indication that *tympanites absolutely contraindicates intraperitoneal injection*.

Case 2: Negro boy, aged 5. Two hours after the intraperitoneal injection of 175 cc. of citrated blood, a violent reaction ensued, with chills, fever, extreme tympanites, cyanosis, severe abdominal pain and vomiting. After 24 hours the urine indicated acute hemorrhagic nephritis and marked jaundice was noted. The symptoms persisted for four days and then gradually diminished.

Case 3: White boy, aged 2 years, was given 225 cc. of citrated blood intraperitoneally. Same reactions developed as in Case 2 and persisted for 5 days, after which there was complete recovery. Both cases represent reactions from blood incompatibility. It was a

second transfusion from the same donor in each case, with no reaction from the first transfusion. This indicates that *blood matching should be done before every transfusion*, even though the same donor has been used previously with impunity.

Case 4: Male infant, aged 5 days. To overcome dehydration from atresia of the esophagus, 100 cc. of isotonic salt solution was given intraperitoneally. Death occurred four days later. Autopsy revealed a huge hematoma in the parietal peritoneum, arising from puncture of "obliterated" right hypogastric artery.

Case 5: Premature male infant, aged 3 weeks. Similar to case 4. Following an intraperitoneal injection of salt solution, the infant failed rapidly and died within twelve hours. Autopsy revealed a huge hematoma about the right lateral umbilical ligament and a large amount of blood in the pelvis, following puncture of the "obliterated" right hypogastric artery.

SAMUEL RAVENEL, M.D.

Greensboro, North Carolina.

THE SEMINAR

(Continued from page 187)

She continued at this weight for about ten months and then lost it quite rapidly. During this illness she did not menstruate for 11 months. She has one child who was delivered at full term without any trouble and is quite healthy.

Examination: Temperature, 98.6°F., pulse, 90; blood pressure, 90/60; height, 63¼ inches; weight, 109½ pounds. Nutrition was fair; her posture was normal; there was nothing significant about her skin or its appendages; eyes, ears, nose and throat were normal; the thyroid was slightly enlarged, but without any thrill or bruit; no tremor or eye signs were present; the chest, heart, lungs and abdomen were negative; there was nothing abnormal in the pelvis.

Laboratory Reports: Basal metabolic rate, minus 22 percent; vital capacity, minus 24 percent; blood count, hemoglobin, 80 percent; leukocytes, 7,900; red blood cells, 4,880,000; lymphocytes, 25 and polymorphonuclears 75 percent; blood chemistry: non-protein nitrogen 35.5; urea nitrogen, 19.1; uric acid, 2.5; calcium, 12.5; sugar, 115. The urine was negative. Total nitrogen output was 17.7 grams per 24 hours.

Requirement: Suggest diagnosis and treatment. What, if any, additional data should be sought?

*J.A.M.A., Feb. 18, 1933.

DIAGNOSTIC POINTERS

Acute Coronary Occlusion and Angina Pectoris

THE condition most likely to be confused with angina pectoris is acute coronary occlusion. The chief characteristic of this condition is that the pain is more severe than even that of angina. It is terrifying, often requiring repeated full doses of morphine for its relief. A marked leukocytosis is usually present. In contrast to angina, the nitrites are of no avail. The pain is much more prolonged, lasting for hours. The patient is severely shocked, face ashen or very pale, and he is covered with cold perspiration. The pulse is small, thready, rapid and, in fatal cases, may disappear with the patient fully conscious. However, there are many instances of recovery and the patient subsequently living practically a normal life.—DR. F. D. GORHAM, of St. Louis, in *Internat. J.M.&S.*, Mar., 1932.

Effect of Ingestion of Alcohol on Wassermann and Other Syphilis Tests*

A STUDY of the effects of the ingestion of alcohol on the Wassermann, Kahn and Hinton tests, in syphilitic patients, has shown that the alcohol has little or no effect on these reactions. This is contrary to widely current accepted opinion.—DRS. J. W. BRITTINGHAM AND S. F. ROSEN, in *Am. J. Syphilis*, July, 1932.

The advertising pages are part of what you pay for. Use them!

Value of the Various Kidney Function Tests in Toxemias of Pregnancy

THE majority of patients suffering from a toxemia of pregnancy fall into one of the three types known as nephritic, preeclamptic and low-reserve kidney. It is in the differentiation of these three types that confusion still exists.

A systematic study of the various kidney function tests, on 65 patients in the Department of Obstetrics of the Johns Hopkins Hospital, was carried out by Dr. H. J. Stander and associates. This study, as detailed in *Amer. J. Obstet. & Gynec.*, Apr., 1932, led to the conclusion that of the Mosenthal, phenol-

sulphonaphthalein, diastase, thiosulphate, urea concentration factor, urea clearance, guanidine and creatinine excretion tests, the latter three proved of real value in the differentiation between mild nephritis and the other toxemias of pregnancy.

The authors recommend urea clearance and creatinine excretion tests for routine use in all cases of toxemia of pregnancy where the diagnosis is not clear. A urea clearance of below 80 percent of the mean normal, and a creatinine excretion below 155 mg. in the first hour, are strongly indicative of renal damage.

Appendicitis in Children

UPON the basis of a series of personally observed cases, appendicitis in children is a complication of upper respiratory infections. Of 18 cases, 13 had such infections with sore throat. Eight (8) of the cases were acute appendicitis; in 8 there was peritonitis, local or general; 1 was gangrenous. Children stand peritonitis very well, but operation should be performed as soon as the case is diagnosed.—DR. J. J. KIRSCHENMANN, Brooklyn, in *A. J. of Surg.*, May, 1932.

Chloral Habit

CHLORAL hydrate is a valuable drug, when used intelligently. The sleep it produces is profound and restful. It is, however, a dangerous habit-former, producing conditions similar to those seen in alcoholism, only more severe. Tolerance is established slowly and withdrawal may produce symptoms resembling those of delirium tremens. Sudden death from heart failure is common among chloral habitues.—DR. H. A. McGUIGAN, in *Chicago M.S. Bul.*, Dec. 23, 1933.

Look for FACTS AND COMMENTS among the advertising pages at the back.

Test for Vasospastic Conditions

ADSON uses the following test in studying the circulation in vasospastic conditions of the extremities, such as Raynaud's disease: He induces fever with a foreign protein, such as typhoid vaccine, and then compares the rise in mouth temperature with the rise in the surface temperature of the extremity.

Normally, the surface temperature will increase from two to ten times more than the amount of increase in mouth temperature. If that amount of increase of the surface temperature in the diseased extremity does not occur, he does not believe that a sympathetic ganglionectomy will be justifiable.—Dr. A. T. STEEGMANN, of Cleveland, in *Ohio S. M. J.*, Apr., 1932.

Hoarseness

CHRONIC hoarseness may be due to edema of the larynx; to tumors of the vocal cords; or to cancer, tuberculosis or syphilis of the larynx—and two or more of these last-named three may be present at the same time.—Dr. FIELDING O. LEWIS, Philadelphia, Pa.

Chronic Seminal Vesiculitis

THE symptoms of chronic seminal vesiculitis are variously classified. The usual array of symptoms in the milder forms of chronic prostatic-vesiculitis are: perineal discomfort, some suprapubic distress, occasional irritation in the rectum and a morning discharge. This gleety discharge is usually present at the meatus only, so that the first glass is cloudy and others clear. The glass tests are usually of little diagnostic value in chronic infections. Recurrent epididymitis is always an indication of a chronic vesiculitis, which very often has been latent. Most of the cases respond favorably to massage, properly administered.—Dr. HARRY C. ROLNICK, of Chicago, in *Illinois M. J.*, Apr., 1932.

Alcoholism

THE craving for alcohol, when occurring in an underweight individual, may be due to insufficient food.—Dr. JAMES J. WALSH, in "Health through Will Power," p. 158.

Effects of Tonsillectomy

OF 200 individuals tonsillectomized during 10 years, 92 were reexamined. Seventy (70) percent stressed the reduced predisposition to catarrhs of the respiratory passages. About 30 percent complained of troubles; namely 10 of predisposition to coughing, hoarseness, coryza and bronchial catarrh; 6 of a sensation of dryness in the throat; 9 of pharyngitis and persistence of the anginous troubles; and 3 of disturbances in speaking and singing.—Drs. E. WIRTH and O. LACHENIT, in *München. med. Wchnschr.*, Nov. 6, 1931.

Oxygen Want

THE following are the signs of acute, extreme oxygen want:

- 1.—Pulse, slow, bounding, often arrhythmic or irregular.
- 2.—Pupil, dilated, fixed.
- 3.—Respiration, depressed or arrested.
- 4.—Systolic pressure raised markedly until respiratory arrest.
- 5.—Muscles, convulsive.
- 6.—Color, cyanotic or ashen.

The following are the signs and symptoms of moderate oxygen want:

- 1.—Mental disturbances, anxiety, restlessness, delirium.
- 2.—Air hunger.
- 3.—Precordial pain.
- 4.—Vomiting or retching.
- 5.—Muscle twitching, contraction of individual muscles or groups.
- 6.—Pulse, increased rate; arrhythmia or irregularity in cardiacs.
- 7.—Systolic pressure, often slight rise or fall.
- 8.—Respiration: Any disturbance such as sighing, yawning, noisy, irregular or arrhythmic, periodic, prolonged expiratory phase, obstruction due to edema of tongue, spasm of larynx, etc.—Dr. R. M. WATERS, in *Wisconsin M. J.*, Jan. 1932.

The advertising pages are part of what you pay for. Use them!

Abdominal Diagnosis

ACUTE abdominal conditions may frequently be simulated by such extra-abdominal conditions as acute infectious diseases (measles, mumps, diphtheria, etc.); rheumatism; diaphragmatic pleurisy; pneumonia; angina pectoris; inguinal adenitis; herpes zoster; and a number of others. Before operating upon supposed cases of urgent abdominal pain, a thorough differential diagnosis should be made.—Dr. JOHN M. T. FINNEY, Baltimore, Md.

Cirrhosis of the Liver

RUPTURED esophageal varices, due to portal obstruction, cause 50 percent of the deaths in cirrhosis of the liver.

If we find a blood picture like that of pernicious anemia, with acid present in the stomach, look for severe liver disease.—Dr. CYRUS C. STURGIS, Ann Arbor, Mich.

I truly get more out of CLINICAL MEDICINE AND SURGERY than all the rest I read.—W.W.L., M.D., Ky.

NEW BOOKS

Any book reviewed in these columns will be procured for our readers if the order, addressed to CLINICAL MEDICINE AND SURGERY, Medical & Dental Arts Bldg., Waukegan, Ill., is accompanied by a check for the published price of the book.

Books are windows in the world of thought and by opening them we are enabled to gaze into that universe of the unknown which lies beyond the boundary of the commonplace—Eternity, as it were, framed by the casement of the printed page.—MANLY P. HALL.

Howard and Perry: Surgery

THE PRACTICE OF SURGERY. By Russell Howard, C.B.E., M.S. (Lond.), F.R.C.S. (Eng.), Senior Surgeon, Poplar Hospital; Lecturer on Surgery and Teacher of Operative Surgery, London Hospital Medical College; Examiner in Surgery, Royal College of Surgeons, Eng., and Allan Perry, M.S. (Lond.), F.R.C.S. (Eng.), Surgeon, London Hospital; Surgeon, Poplar Hospital; Surgical Tutor, London Hospital Medical College. With 8 Coloured Plates and 584 Illustrations in the Text. Fourth Edition. Baltimore: William Wood & Company. 1933. Price \$10.00.

The main object in writing this book was to give students an introduction to surgery and prepare them to pass examinations on that subject. Methods of treatment of controversial value and highly specialized techniques and laboratory procedures have been omitted or treated very briefly. It emphasizes the surgical conditions seen in everyday practice.

The features of the work which make it especially valuable to students also make it helpful to general practitioners who do their own surgery and to those who make their own decisions as to when a surgeon should be called in. The systematic arrangement, clear presentation and the diagnostic and therapeutic material included, combine to make this one of the best one-volume, modern texts on surgery now available.

Savill: Clinical Medicine

A SYSTEM OF CLINICAL MEDICINE. Dealing with the Diagnosis, Prognosis and Treatment of Disease for Students and Practitioners. By Thomas Dixon Savill, M.D., Lond. Edited by Agnes Savill, M.D., assisted by E. C. Warner, M.D. Ninth Edition. Baltimore: William Wood & Company. 1933. Price \$9.00.

The first edition of this book appeared in 1905, and this is the ninth. It differs from other medical textbooks in that it approaches disease from the clinical standpoint, from the position of the physician who sees the patient at the bedside and seeks to trace the observed symptoms to its hidden cause, the disease in operation. The method follows the mental

steps taken in the gradual process of forming a diagnosis.

An unwieldy volume takes its place on the reference shelf; it ceases to be a clinical aid. In this edition the increase is more apparent than real. Lists and tables take the place of long descriptions; whilst occupying more space on the page, these diminish the burden on the memory.

Among the new matter may be mentioned: Cushing's syndrome, Ayerza's disease, paragonimiasis, agranulocytic angina, duodenal and gastro-jejunal diverticulum, loa loa, tropical anemias, oroya fever, osteitis fibrosa, blood transfusion, thrombosis migrans, the Addis urea clearance test, tropical ulcer, the Zondek-Ascheim test, blood sedimentation rate and many other subjects.

Many old-fashioned illustrations have been discarded, and new figures take their place. A new plate of blood cells has been provided by Dr. Hickling and six colored illustrations of retinal disease by Mr. Fleming.

As a one-volume textbook for the general clinician, this work can be recommended highly. Its value and popularity are attested by the fact that nine editions and several reprints have been called for in less than thirty years.

Feinberg: Allergy

ALLERGY IN GENERAL PRACTICE. By Samuel M. Feinberg, M.D., F.A.C.P., Assistant Professor of Medicine and Attending Physician in Asthma and Hay Fever Clinic, Northwestern University Medical School; Professor of Medicine in the Cook County Graduate School of Medicine. Illustrated with 23 Engravings and a Colored Plate. Philadelphia: Lea & Febiger. 1934. Price \$4.50.

The enthusiastic allergists are claiming all the diseases to which flesh is heir for their field; while many physicians scarcely think of allergy at all. The truth lies somewhere between.

Most of the books on allergy are decidedly technical and abstruse. Here is one, written for the general practitioner and using his vocabulary and methods of thinking, which can well take a place in the library of every physician who treats sick folks.

This volume discusses asthma from the standpoint of symptoms, pathology, etiology, diagnosis and treatment. It covers the practical aspects of the hay fever problem, with definite instructions concerning the management of these cases. It treats all other allergic diseases without repetitions. It presents case problems to show the methods of application of allergy in practice. Its discussions are non-technical and non-speculative. It presents for the first time data on plants and pollens, clearly written by O. C. Durham, in such a way that the physician in any part of the country can identify the problem of his own locality. This book brings the patient to the reader. Case histories include the physical findings, the allergic tests, their interpretation, the discussions of the steps in treatment, the successes and failures, and the progress of the cases over periods of weeks, months, and even years. A bibliography points the way for supplementary reading.

Brown: Pregnancy

THE PREGNANT WOMAN. By Porter Brown, M.D., New York: Eugenics Publishing Company, Inc. 1933. \$2.00.

Even today, when there is an impression that young women know everything about their bodies, there is a real need for a book which will give prospective mothers sound information about the art and science of motherhood.

Dr. Brown has prepared a book which clears away many long-held superstitions regarding the female reproductive functions and sets forth many matters which need to be more widely understood. In general, his advice is sound, but he appears to be unfamiliar with more recent developments regarding contraception. There is now no valid basis for his wholly pessimistic outlook in this direction.

Here is a small volume written in understandable language, which physicians can confidently recommend to their patients and others who need or desire such information.

International Clinics

INTERNATIONAL CLINICS. A Quarterly of Illustrated Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and Other Topics of Interest. By Leading Members of the Medical Profession Throughout the World. Edited by Louis Hamman, M.D., Visiting Physician, Johns Hopkins Hospital, Baltimore, Md. Volume 1. Forty-fourth Series, 1934. Philadelphia, Montreal and London: J. B. Lippincott Company. Price \$3.00.

These quarterly volumes of clinical discussions are, for the physician who is treating patients, among the most helpful books published.

In the section on medicine, in this issue, the lecture on the Management of "Old-Age

Conditions" by Henry M. Moses, and that on the "Vegetative Nervous System is Gastro-intestinal Diseases," should interest almost every general clinician.

The section on pediatrics is a symposium on lead poisoning.

A new plan, started with this issue, in cooperation with the Pittsburgh Diagnostic Clinic, will make better doctors of all who use it: A supplement is included, presenting the histories and physical findings of two cases. The student studies these, and then indicates, on the mailing cards accompanying each case report, what laboratory, x-ray and special clinical studies he would call for if he had such a case in his office and need not consider expense.

These cards are then mailed to the Clinic, which will return reports on all studies asked for, in one envelope; and in another the final summary of the case made at the Clinic, which should be opened only after the student has recorded his opinion of the case.

If used honestly and intelligently, these studies should go far toward taking the place of an expensive postgraduate course, and ought to be worth the entire cost of the volumes they accompany.

Conn: History of Staining

THE HISTORY OF STAINING. By H. J. Conn, New York Agricultural Experiment Station. Chairman, Commission on Standardization of Biological Stains. With contributions from Lloyd Arnold, University of Illinois Medical School, Chicago, Illinois; A. F. Blakeslee, Carnegie Institution of Washington, Cold Spring Harbor, N. Y.; R. S. Cunningham, Vanderbilt University, Nashville, Tennessee; S. I. Kornhauser, University of Louisville Medical School, Louisville, Kentucky; F. W. Mallory, Boston City Hospital, Boston, Massachusetts; Eugen Unna, Hamburg, Germany. Geneva, N. Y.: Biological Stain Commission. 1933. Price \$2.00.

This is a well-made little book of 130 pages, setting forth the history of the use of various dyes for staining specimens prior to histologic studies, with brief biographies and portraits of many of the pioneers and prominent workers in this field. It should be of interest to all who work with the microscope and to those who enjoy following the byways of medical history.

Pitkin: The Art of Work

MORE POWER TO YOU. A Working Technique for Making the Most of Human Energy. By Walter B. Pitkin. New York: Simon and Schuster, 1933. Price, \$1.75.

When a man who has been enjoying a reasonably adequate income goes bankrupt, the cause is generally a lack of knowledge and intelligence in the use of his money. The same idea holds true for those unfortunates whose reserves of energy are overdrawn.

Professor Pitkin is a capable instructor in the economics of life energy, and here sets forth the carefully collected facts on which

an energy budget should be based, and the simple and direct (though not always easy) rules for making such a budget and then living up to it. Some of his ideas will be a bit surprising to many readers. Questions of diet, exercise, rest, the general planning of work programs and other practical matters are considered rather hurriedly.

Almost everyone can (if he will) make use of the many suggestions contained between the covers of this "best seller"; and physicians especially, should be familiar with its contents, not only for the mapping of their own life programs, but so they can advise their patients intelligently in the solution of those problems which have, as a rule, been inadequately handled by the medical profession. The book may also be confidently recommended to such patients as possess the intelligence and sincerity of purpose to make good use of it.

Grinker: Neurology

NEUROLOGY. By Roy Grinker, Associate Professor of Neurology, University of Chicago. Springfield, Ill., & Baltimore, Md.: Charles C. Thomas. 1934. \$8.50.

The nervous system is a highly important part of the body, and its thorough study requires at least a basic knowledge of embryology, biology and physiology, as well as of anatomy and pathology. Grinker has worked on this basis, giving students a chance to understand the relationships between the nervous structures and the body as a whole, as well as between their structure and functions.

The clinical discussions are fresh, being drawn from the author's experience at Albert Billings Hospital, Chicago, and are founded on basic data, rather than empiricism. Tables, charts and diagrams are helpfully used and the illustrations are many and excellent. The bibliography contains more than 1,000 references and the index is adequate. The book work is up to Thomas's usual high standard.

This is a book which no neurologist can afford to miss and which should be in all hospital libraries. The average general practitioner may find it more extensive and detailed than he needs, but real students will welcome it, everywhere.

Prausnitz: Preventive Medicine

THE TEACHING OF PREVENTIVE MEDICINE IN EUROPE. By Carl Prausnitz, M.D., (Breslau), M.R.C.S. (Eng.), L.R.C.P. (Lond.), Professor of Hygiene in the University of Breslau. London and New York: Humphrey Milford, Oxford University Press. 1933. Price \$3.75.

Those who are interested in medical education will find, in this well-made little volume, an excellent presentation of the way things of this sort are done in Europe. It should prove a helpful addition to the libraries of all medical schools.

Thomson: Influenza

ANNALS OF THE PICKETT-THOMSON RESEARCH LABORATORY. Volume 9. Influenza (Part 1). With Special Reference to the Part Played by Pfeiffer's Bacillus, Streptococci, Pneumococci, etc., and the Virus Theory. By D. & R. Thomson. (Published for The Pickett-Thomson Research Laboratory, St. Paul's Hospital, London, by Bailliere, Tindall and Cox.) Baltimore, Md.: The Williams and Wilkins Co., 1933. Price \$10.00.

In this massive, paper-bound volume of 640 large pages and 28 excellent plates, the authors present one-half of the exhaustive library work they have done on the subject of "Influenza," in the same way that they dealt with "The Common Cold" last year (reviewed in CLIN. MED. & SURG., July, 1933, p. 384).

Here they have brought together and correlated the important papers on the bacteriology of influenza—Pfeiffer's bacillus, streptococci, pneumococci, etc.—and the virus theory of the disease. The second part of this monograph will deal with the complications, pathology, treatment and prevention of the disease, and is scheduled to appear this year.

It is unlikely that anyone will read this book straight through, but it constitutes a veritable reference library on one of the most devastating maladies of our time, and no reasonably well rounded medical library can afford to be without it.

Lambert: Cure Through Suggestion

CURE THROUGH SUGGESTION. Practical Hints Obtained Through the Mediumship of Mrs. Eileen Garnett. In two volumes. By Helen C. Lambert. New York: Moss and Kamin, Inc. 1423 Sixth Ave. 1933. Price, \$2.50.

Whatever one may believe regarding post-mortem communication, this extended and detailed stenographic record of a long series of conversations between the (purported) incarnate Dr. James H. Hyslop and his one-time secretary and co-worker (as well as some other people in the flesh), through the agency of a competent and reliable medium, should prove decidedly interesting. To those familiar with Dr. Hyslop's writings it will possess some evidential value. In general the physiologic discussions (especially regarding the endocrines) are sound and modern in tone.

Whether or not one is willing to accept the psychotherapeutic and other suggestions made as coming from Dr. Hyslop, it would be foolish to reject what may well prove to be a source of real help without giving the truly reasonable ideas a trial, because one may be skeptical about the source from which such ideas emanate.

Any open-minded physician should find this decidedly unusual book of two paper-bound volumes, comprising about 250 pages, stimulating reading; and it seems quite reasonable to believe that those who sincerely put its suggestions to the test may obtain gratifying results in certain baffling cases.

SEND FOR THIS LITERATURE

TO ASSIST doctors in obtaining current literature published by manufacturers of equipment, pharmaceuticals, physicians' supplies, foods, etc., CLINICAL MEDICINE AND SURGERY, Waukegan, Ill., will gladly forward requests for such catalogs, booklets, reprints, etc., as are listed from month to month in this department. Some of the material now available in printed form is shown below, each piece being given a key number. For convenience in ordering, our readers may use these numbers and simply send requests to this magazine. Our aim is to recommend only current literature which meets the standards of this journal as to reliability and adaptability for physician's use.

Both the literature listed below and the service are free. In addition to this, we will gladly furnish such other information as you may desire regarding additional equipment, or medicinal supplies. *Make use of this department.*

- | | | | |
|-------|-------------------------------------------------------------------------------------------------------------------------------|-------|--------------------------------------------------------------------------------------------|
| T-47 | Campho-Phenique in Major and Minor Surgery. Campho-Phenique Company. | T-719 | Tetanus-Perfringens. (Tetanus Gas-Gangrene) Antitoxin. The National Drug Company. |
| T-504 | Bedtime Nourishment. Mellin's Food Co. | T-720 | National Hay Fever Antigens. The National Drug Company. |
| T-571 | Detoxification in the Treatment of Intestinal Infections. The Wm. S. Merrell Company. | T-725 | <i>The Hormone</i> —April, 1934. The Harrower Laboratory, Inc. |
| T-596 | The Pneumonic Lung. Its Physical Signs and Pathology. The Denver Chemical Mfg. Co. | T-737 | Descriptive Booklet. Od Peacock Sultan Co. |
| T-610 | Bischoff Pharmaceutical Specialties. Ernst Bischoff Co., Inc. | T-742 | Dilaudid a Morphine Derivative. An Advance in Opiate Medication. Bilhuber-Knoll Corp. |
| T-611 | Vera-Perles of Sandalwood Compound. The Paul Plessner Company. | T-744 | Effective Inhalation Therapy. Vapo-Cresolene Co. |
| T-612 | Taurocol. The Paul Plessner Co. | T-746 | Dr. Weirick's Sanitarium. Dr. G. A. Weirick. |
| T-613 | Specific Urethritis—Gonosan "Riedel." Riedel & Co., Inc. | T-752 | Fourth Edition of Diagnosis of Genito-Urinary Diseases and Syphilis. Od Peacock Sultan Co. |
| T-636 | Science's latest contribution to female sex hormone therapy — Progynon. Schering Corporation. | T-758 | Actual Experiences with Endocrine Toxemias. The Harrower Laboratory, Inc. |
| T-642 | Ergoapiol (Smith) and Glykeron. Martin H. Smith Co. | T-759 | From "Poultesse" to "Cataplast-Plus." Numotizine, Incorporated. |
| T-669 | The Illinois Post Graduate Medical School Bulletin. The Illinois Post Graduate Medical School, Inc. | T-761 | For the Failing Heart of Middle Life—Theocalcin. Bilhuber-Knoll Corp. |
| T-672 | Inflammation and Congestion. Numotizine, Inc. | T-763 | Look at the question of quality for True Econorhy—Menocrin. Harrower Laboratory. |
| T-718 | For more than 25 years the Dental and Medical Profession have recommended Revelation Tooth Powder. August E. Drucker Company. | T-764 | <i>The Edwenil Contact</i> . Spicer and Company. |

- T-766 Incretone. G. W. Carnrick Co.
- T-768 Yeast Vitamine—Harris. The Harris Laboratories, Inc., Tuckahoe, N. Y.
- T-771 Anabolin—The standardized liver principle. The Harrower Laboratory, Inc.
- T-774 Adreno-Spermin. The Harrower Laboratory, Inc.
- T-780 The Intravenous Injection of Hydrochloric Acid. Loeser Laboratory.
- T-781 Dysmenorrhea — Hormotone. G. W. Carnrick Co.
- T-782 Sundry Adventures of Marco Polo. Schering Corporation.
- T-785 Endo Liver Extract in the Treatment of Pernicious Anemia. Endo Products, Inc.
- T-786 The safe Treatment of Hemorrhoids. Schering & Glatz, Inc.
- T-787 Gastric Mucin (Stearns) treatment of Peptic Ulcer literature containing tasty recipes sent to physicians. Frederick Stearns & Co.
- T-789 Creofos. Creosote with Hypophosphites Delson. The Delson Chemical Co., Inc.
- T-792 The Last Three Months. William R. Warner & Company, Inc.
- T-794 *Journal of Intravenous Therapy*. Loeser Laboratory.
- T-795 Douching for Health and Beauty (An educational booklet for patients, without advertising). Holland-Rantos Co., Inc.
- T-796 The Way to Better Teeth. Libby, McNeill & Libby.
- T-798 "Treatment of Toxic Goiter" (reprint). Columbus Pharmacal Co.
- T-799 Whooping Cough Successfully Treated with Elixir Bromaurate (Elixir Gold Tribromide). Gold Pharmacal Co.
- T-800 Introducing to Physicians Only; A dependable form of Vaginal Hygiene—Ortho-Gynol. Johnson & Johnson.
- T-801 Endocrinology; Recent Professional Reports. Huston Brothers Co.
- T-802 The Mental State in Hemorrhoids. Schering & Glatz, Inc.
- T-803 Constipation and Intestinal Bacteria. William R. Warner & Co., Inc.
- T-804 "The Electro-Diagnoset in Diagnosis, Treatment and Surgery." Cameron Surgical Specialty Co.
- T-805 Safeguarding Libby's Milk. Libby, McNeill & Libby.
- T-806 Important Information for You! After 40 Years We Ought to Know. Huston Brothers Company.
- T-807 Female Sterility. Holland-Rantos Co., Inc.
- T-808 Facts About Ortho-Gynol for Physicians. Johnson & Johnson.
- T-809 Disorders of the Female Sex Cycle. Schering Corporation.

USE THIS COUPON!

Enter below the numbers of the literature you desire (on both sides of this page); check your profession in the proper square; tear off and mail to CLINICAL MEDICINE AND SURGERY, Medical and Dental Arts Bldg., Waukegan, Ill.

We will do the rest!

Nos. _____

Name _____

Address _____

☐ Physician

☐ Dentist

☐ Nurse

☐ Registered Pharmacist

☐ Medical Student